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OF THE DAY

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Vital Speeches of the Day

REG. U. S. PAT. OFF.

VOL. XXIV MAY 1, 1958 No. 14

Defense Reorganization for Unity

IN STRATEGIC PLANNING, IN MILITARY COMMAND AND IN FIGHTING FORCES IN COMBAT COMMAND

By DWIGHT D. EISENHOWER, *President of the United States*

Delivered before the American Society of Newspaper Editors and the International Press Institute, Washington, D. C., April 17, 1958

MR. CHAIRMAN, Mr. Vice President, My Fellow Americans:

First, my warm and special greetings to the distinguished visitors here from other lands. I must say to them that my subject today is more national than international in scope. Yet, there are international overtones in all that I shall say. American strength, of which I shall speak, is inseparable from the waging of peace. In this, all of us are interested.

Five years have passed since as President I last met with your Society. I discussed then what is still the world's paramount need—an enduring, just peace.

In early 1953, you recall, the world was deeply troubled. Two wars were in progress. One had cost the lives of thousands of our own youth. It promised to go on indefinitely. The other menaced all southeast Asia. There was daily possibility of more trouble—in the Formosa area, the Middle East, Western Europe—even in the Western Hemisphere.

Many of the goals I then presented to your Society are now achieved:

In Korea and Vietnam, the wars are ended.

In Formosa—Guatemala—Iran—the Communist threats are blocked.

In Trieste, the age-old struggle is resolved.

Austria is liberated, the Red Army withdrawn.

Germany—at least West Germany—is once again sovereign and today reinforces European unity.

"Atoms for Peace," so meaningful to mankind, is at last under way.

The stature of the United Nations is appreciably raised; free world nations are more united in collective defense.

And slowly but significantly the Iron Curtain has started to lift. Behind it the personal security and intellectual freedom of oppressed peoples gradually increase—another development not without promise.

Such gains are with us. Yet the problems remaining are many and grave.

Communist imperialism persists in striving to master the world.

Germany remains divided. Eastern European nations remain enslaved.

Turmoil and bitterness plague North Indonesia, the Middle East, and parts of North Africa.

France, our historic ally, has major difficulties.

New weapons of fantastic power appall the world. Humanity now threatens its own existence.

Dependable disarmament remains but a hope—a hope we still ardently cherish and will continue striving to realize.

So today we find, despite our progress, that peace, national safety—survival itself—demand of America strength in its every aspect—spiritual, intellectual and scientific, as well as economic and military.

Now this brings me to my main topic—our military strength—more specifically, how to stay strong against threat from outside, without undermining the economic health that supports our security.

It is hard to grasp the enormity of our own military expenditures. In only five years, they are almost 200 billion dollars. This colossal expenditure has cost us far more than dollars alone. In a less threatening world, how much it could have meant to us. In private or public spending, this 200 billion dollars could have bought:

—of highways, the entire, nation-wide interstate system;

—of hydro-electric power, every worth-while project in America;

—of hospitals, our needs for ten years to come;

—of schools, our next decade's requirements, including catching up on present shortages.

And even had we additionally allocated 10 billion dollars

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a year for security, some 50 billion dollars would still have been left over to reduce the national debt.

So, clear it is that this armaments race—so terrible, so utterly wasteful—has imposed tragic penalties upon America and on all mankind.

Now all of us deplore this vast military spending. Yet, in the face of the Soviet attitude, we realize its necessity. Whatever the cost, America will keep itself secure.

But in the process we must not, by our own hand, destroy or distort the American system. This we could do by useless overspending. I know one sure way to overspend. That is by overindulging sentimental attachments to outmoded military machines and concepts.

Paraphrasing an American patriot, our motto must be: "Billions for defense; not one cent for needless waste."

Such considerations I have placed before Congress in a message on defense reorganization. The purpose is clear. It is safety with solvency. The country is entitled to both.

Now let's examine our defenses. There is a simple starting point. It is this:

The waging of war by separate ground, sea and air forces is gone forever.

This lesson we learned in World War II. I lived that lesson in Europe. Others lived it in the Pacific. Millions of American veterans learned it well.

If in organizing our defenses we ignore that lesson, we shall do so at our own deadly peril.

To prevent war—or, in the tragedy of war, to win it—is the whole purpose of this huge defense establishment. Its success requires one single basic scheme, under single direction. That scheme is called our strategic plan. The single direction is provided by our highest military chiefs, acting in unity under civilian control.

Unity, then—unity in strategic planning, unity in military command, unity in our fighting forces in combat commands—these we must achieve.

Now, applying this yardstick of unity, we at once identify needed defense changes.

Their essence can be stated in a nutshell. Unified strategic plans, carried out in peace or war under unified direction, presuppose that the directing head, the Secretary of Defense—Joint Chiefs of Staff mechanism, has sufficient authority over supporting activities to assure execution of the basic plans. This, I submit, is the sum total of unification. In critical respects, it is lacking in our defenses today. Certain revisions of the present system are urgently needed.

First, we must unify and strengthen the professional staff assistance available to the top strategic planners. The top strategic planners are the Joint Chiefs of Staff. In some respects this can be done administratively. Such improvements I have already directed. Other improvements require changes in law. These I have asked of the Congress.

Second, we must clear the lines of military command. Today they meander through subordinate elements of the Defense Department before they reach the fighting forces. Within the limits of law, I have already directed the administrative changes this improvement requires. Additionally, I have asked the Congress to remove various statutory barriers. The Congress willing, we will free the flow of military commands from unified authority down to the man with the gun.

A third change is most important. It is to integrate the power of the fighting units in the several strategic areas. The forces in each of these areas can operate effectively only under fully unified command. We must place each such command under the full control of one commanding officer, no matter what his service. This is exactly, my friends, the power that was given to me as European Commander during World War II. And again, to make this a statutory matter, I have asked Congressional cooperation. So, the Congress willing, we will, in the pattern of the Navy's mighty task forces of World War II, forge singly-led fighting units of unified, concentrated power. Thus we shall face up to the requirements of modern war. It is—I repeat—power that is concentrated, not diffused. The truth is that the services acting together, rather than singly, generate power that is not the sum but a multiplication of their separate capabilities.

Our fourth need is no less urgent. We must do a more efficient job of integrating new weapons into our fighting forces.

Again, we need the unity of direction.

The onrush of science has changed this problem at its very roots. Take, for example, a reconnaissance satellite, orbiting in space. If successful in carrying out that reconnaissance, it would transmit military information of value to all the armed forces. The utility and purpose of such an instrument could hardly be prerogatives of any single military service. Nor is it rational for the services to wage bitter struggles and multiply expensive research facilities in a race to control such a development.

The ballistic missile is another example. This weapon can be fired at targets hundreds of miles away. Its principal function rises above one-service considerations. It matters not at all to the American people whether such a missile is fired from a land base or from a submarine. Nor is the public overly concerned whether a piloted bomber takes off from land or from an aircraft carrier to hit the very same target. The point is to be able to get the job done, at the least cost.

In short, it is high time for all of us to pay more attention to America's strategic requirements and less to individual service claims.

The fact is, modern weapons and methods of war have scrambled traditional service functions. Interservice controversy and confusion are the result. This simply means that our military weapons and techniques and certain provisions of law just do not mesh.

I am quite sure that the American people feel it is far more important to be able to hit the target than it is to haggle over who makes a weapon or who pulls a trigger.

I have simply asked the Congress to accept and apply these facts of military life. The Congress willing, we shall bring to bear, in each unified command, all the power each military service can usefully provide to support the mission of the command with the most modern of weapons.

The next change affects the authority of the Secretary of Defense.

That authority must be clearly defined. Today, the law envelops it in a legal fog. Mainly this is the result of clinging to traditions and concepts of a military era that is no more.

As I have said, modern war demands the vesting of strategic planning and control of military operations clearly in the Secretary of Defense—Joint Chiefs of Staff mechanism, under the over-all direction of the Commander-in-Chief. It is impossible longer to diffuse this function among three competing services.

For this central directing mechanism to perform its function properly, it must assure the fighting forces of adequate supply and support. This requires central coordination of a multitude of military activities. Examples are transportation, maintenance, procurement, and material design. The authority of the Secretary of Defense must be sufficient to direct this support by all.

For this purpose there is no need to consolidate the traditional services. Nor do we need to create entirely new administrative units in the Defense Department. But there must

be no doubt that central authority can direct the needed coordination and take steps to eliminate any wasteful duplication.

The appropriation process must facilitate, not hinder, this essential coordination. Today the Secretary of Defense is too severely restrained by this appropriation process to permit maximum efficiency. Moreover, strategic requirements change constantly—oft-times, swiftly and critically. This constant change, as well as continually discovered new opportunities to improve efficiency, are compelling reasons for giving the Secretary a reasonable flexibility in the use of funds.

Thirty-seven billion 250 million dollars have been appropriated for the military establishment this fiscal year. Less than 2 per cent of it was appropriated to the Secretary of Defense—this to run his office and to meet the costs of a certain number of activities that apply to all arms and services. Of the remaining 98 per cent, only 150 million dollars was specifically subject to transfer between appropriations by the Secretary. And that authority was limited to research and development.

I have simply proposed that the Secretary be granted additional flexibility beyond that now available by reprogramming within appropriation totals. The Congress should adopt one of the several applicable methods of doing this. Of course there should be appropriate reports to the affected Committees of Congress on the use made of this authority.

Flexibility does not mean license. It does not mean handing 40 billion dollars to the Secretary of Defense to use according to his personal decision. It does not mean depriving Congress of the power of the purse.

What flexibility does mean is Congressional action that will make annual appropriations readily adaptable to rapidly changing strategic conditions in the world. Likewise, appropriations must be responsive to the demands of departmental efficiency.

In another area—defense research and development programs—the need for central direction is especially acute.

This area, more than any other, invites costly rivalries. The programs are critically important. They involve the weapons of tomorrow. In these programs we cannot afford the slightest waste motion. Nor can we afford to devote three sets of scientists and laboratories and costly facilities to overlapping weapons systems and research projects.

Recently we have been spending something more than $5 billion a year for research and development programs dispersed among the several services. This great sum is used to maintain our weapon potential but it does not procure one single weapon or piece of equipment for the operating forces. Not a one. Eminent scientists report to me that centralization of direction over this program will surely cut costs markedly and improve efficiency.

I have recommended that the supervision of this entire activity—and, to the extent necessary, its direction—be centralized in the Defense Department under a top civilian who will be a national leader in science and technology—the actual work will of course be done largely by the military departments as is the case today. The Congress willing, we will substantially increase the efficiency of this multibillion dollar research and development effort. We will reduce its cost, and strike at one of the roots of service rivalries.

Finally, I have called attention to the need for review by the Secretary of Defense and the Joint Chiefs of Staff of our top service promotions and assignments. Top admirals and generals for unified commands must be fitted temperamentally and by conviction for responsibilities that far transcend their individual services. To reward parochialism with promotion is to invite disunity. In the same vein, I have directed the Secretary of Defense to take a firmer grasp over service publicity campaigns and Congressional activities. This should certainly reduce invitation to disunity.

Incidentally, I would personally hope that the total numbers of individuals assigned to rival publicity campaigns in the Defense Department would be drastically reduced.

In the bill just sent to Congress, I requested correction of all of those weaknesses of a statutory nature which relate to the authority of the Secretary of Defense.

Now, looking back over all the years since 1911 when I entered military service, I find it hardly surprising that a defense revision agitates partisans and traditionalists. Never has it been otherwise, whether we have gone from battleships to carriers in the Navy, from piston engines to jets in the Air Force, or from cavalry to armor in the Army—and, in all services, from TNT to nuclear weapons. We can expect the same kind of resistance to the new modernization proposals. But in the present situation it is more than gratifying to me to have the assurance that the convictions of senior civil and military leaders in all parts of the Defense Department closely parallel my own. They have cooperated loyally in designing the details of the proposed reorganization. Much of the criticism we will likely hear, therefore, will probably be loudest and most bitter not from responsible service leaders but rather from outside sources. These sources often resist military change far more vigorously than the services themselves.

But from some quarters it will be said, for example, that the changes I have discussed will merge our traditional forces into a single armed service.

This is not so.

The identity of each service will remain intact. Moreover, its training, its pride, its traditions and its morale, all important to itself and to the country, will still be the responsibility of its own service and civil leaders.

It will also be said that a monstrous general staff—usually called "Prussian"—I am always amused when I hear that word, because I nearly always ask the individual to explain it to me by telling me what he thinks a Prussian general staff was. Few can do it. In any event, they fear that this monstrous staff will be set up to dominate our armed forces and in due course will threaten our liberty.

This is nonsense.

The group of planners and advisers and analysts that will serve under the Joint Chiefs of Staff cannot logically be compared to the great general staff of Germany of 1914. The Joint Chiefs of Staff will remain the top military advisers under the clear-cut civilian control of the Secretary of Defense, the Commander-in-Chief, and the Congress, all functioning within the bounds set by the Constitution.

But it will likely be said, in the same breath, despite the obvious contradiction, that not a professional military staff but the Secretary of Defense will be made a "czar" who will overwhelm our liberty.

This, too, is not so.

We shall have neither military nor civilian czars. The Secretary will stay directly under the President and the Congress. He will remain subject to a tremendous body of detailed law. In military affairs he will be advised and assisted by the Joint Chiefs of Staff. So surrounded, by no stretch of the imagination can he become an arbitrary administrator working his will independently of the President, the Congress, and our fundamental charter of government.

You know, folks, it's true, it's a habit of ours to set up straw men which we take great pleasure in beating down. But in this case it seems to me that the men are not made of good, honest straw even. They scarcely deserve the name of "chaff."

It will likely be said, in addition, that these proposals will

violate the responsibilities of Congress, especially its power over the purse.

As I have said, this is equally far-fetched.

The Congress will keep, in every respect, its full constitutional authority over the appropriation of funds. But greater flexibility in defense spending will result in greater efficiency, more responsiveness to changing military requirements, and more economical management of major defense programs.

Apprehensions such as these are at the least misconceptions. At the most they are misrepresentations. I repeat—there will be:

—no single chief of staff;

—no Prussian staff;

—no czar;

—no 40 billion dollar blank check;

—no swallowing up of the traditional services;

—no undermining of the constitutional powers of Congress.

But this there will be, if the program which I so earnestly support and believe in is adopted by the Congress:

There will be a stop to unworthy and sometimes costly bickering.

There will be clear-cut civilian responsibility, unified strategic planning and direction, and completely unified combat commands.

There will be a stop to inefficiencies and needless duplications encouraged by present law.

Thus we will meet our dual needs—safety and solvency. The Congress willing, we shall have maximum strength, with minimum cost, in our national defense.

And now, one final thought:

Today I have been speaking mainly about military problems. Overseas we can count on the Soviet propaganda to twist these statements into accusations that we are making threats and are obsessed with war making techniques. But all the world knows, as we do, that neither war nor the technique of war has ever been America's primary concern.

The powerful armed forces of the United States are no more than supports for a much larger purpose. That purpose is peace—a just peace—and the advancement of human well-being at home and throughout the world. Freer trade and cooperative assistance among the free nations are indispensable aids in bringing this about.

This I believe deeply: if we will but hold fast in our struggle for lasting peace, we shall, in coming years, find full justification for confidence that war will not occur and that this wearisome and dangerous armaments burden will be lifted from the shoulders of a grateful humanity.

I believe further that in this struggle the strength that endures rests with those who live in freedom. Tyranny is too brittle—too insecurely based—too dependent upon force and brutality—too contrary to the hopes and ideals of humanity—to last over the long pull. The day will surely come when this undeniable truth will dawn upon even the rulers of the Soviet Union, as already it is dawning upon their peoples. Then, we shall see at last the true worth of all our effort, all our sacrifice, all our prayers.

Thank you very much.

A Time For Action

INADEQUACY OF PRESENT NATIONAL SECURITY PROGRAM

By JOHN S. GLEASON, JR., *National Commander, The American Legion*

Delivered before the Rotary Club, Indianapolis, Indiana, April 8, 1958

I AM VERY PROUD and happy to meet with you Indianapolis Rotarians today. And I am grateful for the privilege of addressing this luncheon meeting.

Rotary luncheons are world famous for the fine food and speeches they feature. It is apparent that your eating standards have been upheld by this meal. As to the speech . . . well, there's always next week.

Of course, the way things are going here at home and abroad you may not feel like eating next week, but I wouldn't bet on it. For two reasons. First, you have too much faith in the future of America, of Indiana and this great community to be pessimistic or discouraged about the difficulties and dangers we face. Secondly, you have the necessary wisdom, courage and determination to resolve the many challenges confronting us and to make the future an era of unprecedented peace, progress and prosperity.

This is not wishful thinking. It is, instead, a call to greatness in America's darkest hour of crisis.

I wish that it were possible for me to come before you today and say that The American Legion has the answer to Russia's latest and most devastating propaganda victory . . . a victory scored, ironically enough, not only without firing a shot but by the simple announcement that a future nuclear shot would not be fired.

We don't have the answer because there is none. There can be no adequate, effective reply to a propaganda explosion more powerful and far-reaching than the mightiest nuclear device yet developed.

Russia has won other rounds in its battle for the minds of men and the conquest of the world. We have been hit hard and hurt badly at the very moment when we seemed to be scoring heavily after shaking off the staggering smashes of Sputniks I and II. The rounds are running out on us. Our title as a free nation under God is on the line and we are in deadly danger of losing it.

Can we save it short of a last round, toe-to-toe, all-or-nothing battle with Russia? Must it be defended by a knockout . . . a bloody, brutal finish that finds our hand raised in victory and us but a shell of a once great champion?

The answer is up to us . . . to you and me . . . to Rotarians and Legionnaires . . . to every American.

We can continue to try and cover up and hope that somehow Russia will tire. We can continue to throw counterpunches that are both too weak and too few and pray that they will pile up sufficient points in our favor. But if we stick to this strategy defeat is certain.

We must take the offensive . . . not in an aggressive, military sense . . . but in a strategic, tactical sense . . . in a total ideological, political, economic, moral and military effort.

We can delay no longer. In fact, we have already waited far too long.

Russia is on the offensive on all of these fronts. Further, every time we close one salient and repulse one assault, a communist offensive is already well underway on an entirely different front.

A distinguished Legionnaire, Frank R. Barnett, Director

of Research for the Richardson Foundation, Inc., has termed our efforts "too little and one continent too late." In a disturbing and truly thought-provoking speech recently, Mr. Barnett borrowed H. G. Wells' Time-Machine and projected himself and his audience to the year 1973 . . . only 15 years from now. Then he said, and I quote:

"It is true that, as the great structure of free world alliances began—nation by nation—to crumble, under the pressure of Soviet blandishments and nuclear blackmail, the American people learned to live with the word 'sacrifice.' But the sacrifice was always too little, too haphazard, and at least one continent too late. While the West was fashioning NATO to defend Europe, the Communists consolidated their power in China and pushed their tentacles down the Islands of the Indies. By the time Asia was put on the American agenda, the Soviets had leapfrogged into the Middle East. Then, while America was preoccupied with the spreading stain in Syria and Egypt, Communist cadres swarmed into the precincts of India and every corner of Africa. By the time Washington thought seriously about Africa, south of the Sahara, Communist trade missions and agents had saturated Latin America." Unquote.

Fantastic fiction? Hardly. All but the last step has already been taken.

In view of this truth, we must ask ourselves honestly and courageously: Was Barnett tragically prophetic when he declared:

"Yes, there was 'sacrifice' as the Communist Bloc formed new coalitions in the United Nations that hamstrung America on every issue of international trade and military security. There was more 'sacrifice' when, after the wonder of Sputnik had worn thin, the Soviets put gun platforms into outer space—to hover over New York, Chicago and San Francisco as a constant reminder that civilians in those vulnerable cities were only 30 seconds away from the thermonuclear front. But the 'sacrifice' was never of sufficient magnitude; it was never adequately sustained; and, above all, it was geared to misleading assumptions. For in spite of the evidence, the American people could never quite bring themselves to believe the Communists meant what they said." Unquote.

Mr. Barnett has not lost faith in America and in our people. Neither have I, and neither has The American Legion. We believe with him that we *can* change the present course of history. But we agree also with his warning that time is notoriously impartial; that "in strategy—as in war, business and politics—time favors only those who know how to use it."

How can we make time our strong ally rather than our invincible enemy?

The first thing we must do is to stop kidding ourselves as to the effectiveness of our existing programs and policies in halting the relentless spread of communism. We have got to stop digging our own grave with the tool of complacent confidence in the comparative strength of our Armed Forces. And we must stop drugging ourselves with the false belief that the remaining free people of the world will reject communism because they recognize it for the evil, treacherous, deceitful tyranny that it is.

In short, for God's sake let's have the guts and the intelligence to face up to reality before it is too late.

Tomorrow, The American Legion's National Security and Foreign Relations Commissions will begin their annual three-day meetings in Washington. From these meetings will come the specific, carefully-considered recommendations which, if approved by our National Executive Committee, will constitute the Legion's official views on what must be done to stop the communist offensive. I cannot anticipate those recommendations, of course, but I can assure you that they will not evade reality. They will call a spade a spade. They will uphold The American Legion's proud tradition of speaking out, without fear or favor, in the best interest of America . . . and let the chips fall where they may.

I had the great privilege of appointing the distinguished Americans and Legionnaires who are members of these commissions. I know their thinking and the thinking of The American Legion. And I say to you today:

The American Legion is tired of seeing our great nation knocked from propaganda pillar to political post by the communist giant. We're tired of having the dynamic wealth and boldness of freedom spent a moment or a continent too late. We're tired of having the strength of our Armed Forces today measured against the yardstick of World War II when the whole world knows that the only valid comparison is the military might of Russia. Yes, we're tired too, of assurances that because America recognizes the historical fact that communist Russia is a nation without honor, what is left of the free world is equally informed, equally immobile, and equally impervious to Russian military, economic, political and moral propaganda and pressure.

If this seems like harsh criticism, it is justified by reality.

Listen, if you will, to this extract from an editorial last week in the Scripps-Howard newspapers entitled "Courageous Indecision." Referring to the latest Russian propaganda battering of the Western Alliance, while we remain inarticulate, the editorial, and I quote, "reminds us of the story of the young British officer drilling troops atop the cliffs of Dover. He started daydreaming while the column marched directly toward the brink.

"On marched the disciplined troops, but still no command from the officer. Finally, a few paces short of the abyss, an old sergeant spoke up politely:

'Please say something to the men, sir, if it's only goodby'."

In The American Legion there is no room and no place for political partisanship. Thus, our criticism is not personal. Above all, it is not directed along party lines. But it does reflect our sincere, heartfelt concern over the alarming and seemingly uncontrollable advance of communism economically. When we stop it militarily, communism advances economically. When we halt it politically, it challenges us morally. And it advances on all fronts whenever we must pause to regroup and bring up reinforcements for the next assault.

Look at the record. Forty years ago communism was confined to a rented room in Zurich, Switzerland, the brains of Lenin and the ambition and raw courage of a few other outcasts. Today one-third of the people of the world are imprisoned behind the Iron Curtain of this monstrous, evil tyranny. And the shadow of communism is lengthening, and darkening nation after nation in every part of the world.

And we remain cautious, adhering to the conventional, countering a continent and catastrophe too late.

Militarily we hold up 14 Army Divisions and Six Regimental Combat Teams and say that this force is enough to meet Russia's known 175 active Divisions. Of course, we do have a reserve, now threatened with a 10 per cent cut, of 400 thousand National Guardsmen and an Army Reserve of presumably 300 thousand men. Russia alone can counter with 300 Reserve Divisions.

To suggest that our Army, unit for unit, still possesses superior fire power, is to ignore the fact that the same scientific and productive genius which enabled Russia to launch Sputniks I and II has given the Red Army a mobility and firepower comparable to our own.

Lest we seek false courage and security behind our Navy, let's remember that today, at this moment, Russia has more

than 600 submarines in its fleet, and, according to reliable estimates, is adding three submarines every two weeks to this strength.

If you don't think this is a frightening fact, then I would point out that Hitler began World War II with only fifty-seven submarines . . . less than one-tenth the number in Russia's present submarine fleet.

Believe me, The American Legion is not for a moment minimizing the raw courage, the fighting heart and combat capabilities of those dedicated Americans who man our defense ramparts today. But they deserve a fighting chance. They deserve our faith, certainly, but not our expectation of miracles.

Time doesn't permit me to detail the steps that must be taken to strengthen and make effective our Air Force, especially the Strategic Air Command, or to bring the United States Marine Corps to a state of true combat readiness.

In summarizing the inadequacy of our present national security program, I admit The American Legion might well stand alone in saying that the United States is militarily unprepared today compared to the enemy we face.

This will be denied. I pray to God we can be proved wrong, if war should be our fate.

Now, let me conclude with this thought. America will carry out our planned nuclear tests in the Pacific this Spring and Summer. And Russia will carry on her propaganda, multiplying its effectiveness with each nuclear device we explode. Knowing this, we still have no choice but to conduct these tests. And when we conclude, Russia, in outraged indignation, will announce to the world that in her own self-defense and against her demonstrated desire for peace she must resume her own tests. Summer will fade into Fall. Soon another year of precious, unrecoverable time will have passed.

Will the speaker at your luncheon then have an even bleaker, blacker picture to paint? Or will he be privileged to talk of the dynamic, imaginative, inspiring programs and policies undertaken by America to stop the flood-tide of communism and roll back this destructive, debasing force from its high-water mark of April 8, 1958 . . . roll it back and back and back until it is not even damp enough to spot the floor of that rented room in Zurich from whence it welled forth forty years ago?

The answer is up to us.

Thank you for the privilege of being with you today.

Needs for U.S. Defense

DEFENSE ORGANIZATION NOT RELATED TO MOST PROBABLE MILITARY MISSIONS

By CARROLL L. WILSON, *Member of Special Studies Project of the Rockefeller Brothers' Fund, New York, N. Y.*

Delivered at Northeastern University, Boston, Massachusetts, March 28, 1958

IN THE SUMMER of 1956, Mr. Nelson Rockefeller established the Special Studies Project of the Rockefeller Brothers' Fund in an attempt to assess major problems and opportunities which are likely to confront America over the next ten years. The work was divided among seven panels whose topics included foreign economic policy, problems of U. S. defense, domestic economic and social objectives, and education and manpower. I had the privilege of serving on the panel dealing with our military security.

The report of our panel was published in January of this year, and since then nearly half a million copies have been distributed. Two hundred thousand copies were mailed free of charge by Mr. Rockefeller in response to an unprecedented volume of write-in requests following a television program on which Mr. Rockefeller summarized the report. The remainder have been sold and may be found on most newsstands.

Such wide and prompt reader response is an encouraging indication that many thoughtful Americans are troubled by a feeling that all is not well with our military establishment in terms of its capacity to meet the constantly changing and growing threat of Soviet power. It shows that people are prepared to face the unpleasant fact of our present peril and, I hope, to do those things which lie within the power of the citizen in bringing about corrective action.

Military security was only one part of the overall studies project of the Rockefeller Brothers' Fund. While it is the most urgent, it is not in the long run the most important. We are concerned with national security because we *must* be. We are concerned with more positive tasks because we *want* to be. I expect that reports based on studies by other panels will be published soon.

I will speak today on the needs for United States Defense as our Panel found them. Our conclusions were reached after numerous meetings over a period of more than a year, and after having the benefit of many specially prepared papers and the testimony of numerous experts. Before discussing the specific military challenges which we face, I would like to state our concept of the kind of world we are living in, for this established the framework for our studies. I quote from our report:

"The world is living through a period of swift and far-reaching upheavals. Standards and institutions which have remained unchanged for centuries are breaking down. Millions who have hitherto passively endured their place in life are clamoring for a new and more worthy existence. Western Europe, the fountainhead of our civilization, has lost its position of dominance in world affairs. Across the great land-mass of Eurasia and on the continent of Africa new nations are rising in the place of colonial empires.

"Mankind is yearning to realize its aspirations in peace. But it is faced by two somber threats: the Communist push to achieve world domination, which seeks to exploit all dissatisfactions and to magnify all tensions; and the new weapons technology capable of obliterating civilization.

"The United States has thus been placed in a fateful position. Our whole tradition impels us to desire peace. Relatively invulnerable behind two great oceans, we have, until the end of World War II, asked little of the world save to be free to work out our destiny undisturbed. But we have been forced to realize that our security is inextricably bound-up with the safety of the rest of the free world, and that freedom everywhere depends on our strength and resolution. Force alone will not supply the answer to the hopes of humanity. Yet our strength, effectively mobilized, can help bring about a framework of security in which these aspirations may be realized in freedom and without fear.

"Looking at the world from the perspective of our past isolation and recent nuclear supremacy, perhaps the most difficult thing for us is to accept the reality of our peril.

Other more exposed nations have had to learn to live over a period of centuries with the awareness that their existence might be imperiled by foreign attack. It is a new experience for Americans."

The Soviet determination to achieve world domination and to exploit all dissatisfactions is too well known to need reiteration here. But a few facts about modern weapons technology and Soviet capability need to be stated. I will not elaborate upon these statements for I believe they have become generally, though reluctantly, accepted by our more thoughtful citizens.

First, the power of modern nuclear weapons is such that 50 such weapons, falling on our 50 most important metropolitan areas, would bring under attack half of our population and three-quarters of our industry. A successful attack on these 50 centers would produce at least 10 million dead, 15 million injured from blast and heat, and another 25 million casualties from "fall-out."

Second, as weapons have become more powerful, the speed of their delivery has grown ever faster. Soon missiles will be able to travel intercontinental distances in less than an hour, and defense against them becomes increasingly difficult.

Third, Soviet science is at least equal to our own in many strategically significant categories. In the military field, the technological capability of the U. S. S. R. is increasing at a pace obviously faster than that of the United States. Soviet nuclear attacks against the United States of great severity are possible now; within a few years the U. S. S. R. will be capable of delivering massive air and missile attacks against all major targets in the non-communist world. Nuclear weapons of many varieties are already available in quantity in the Soviet Union and will become abundant there as they are here within a very few years.

In the face of these facts, what things should we be doing which we are now neglecting? As a nation we have not shrunk from unpleasant tasks nor been unprepared for sacrifice and hardship if we were satisfied that a job had to be done. We won't shrink from this one if we are clear as to the problems we face, and have leadership to show us what needs to be done.

First, let us see what our major strategic tasks are. Clearly the greatest threat is All-Out War which would amount to near-annihilation as a result of a massive Soviet nuclear attack. Because any presently foreseeable defense would not prevent a substantial part of any attack getting through, our major deterrent must consist of a massive capability of retaliating against a surprise attack. It is not thinkable that we would be the first to unleash such an attack. But our means of retaliation must be so secure, so dispersed, and so continually alert under coordinated direction, that the Soviet Union would never be in doubt that an attack by them would be reciprocated by an equally massive attack by us against the Soviet Union.

Thus the first and foremost strategic task of our military establishment is to retain, through all the rapid change in technology, a massive nuclear retaliatory capability. The means include our Strategic Air Command with its many bases abroad, intermediate and long-range missiles carrying nuclear weapons, naval carrier forces capable of launching attacks deep into the interior, missile-launching nuclear submarines, radar warning systems on land, sea and in the air, and active defense against attacking aircraft or missiles. In addition, civil defense measures are needed to protect against "fall-out." These are both feasible and relatively inexpensive.

Let us call this Strategic Task I. You will observe that the means composing this capability have little or no relation to modes of transportation. Strategic Task I is a large, complicated mission in which the means for carrying it out most effectively are constantly changing—from manned aircraft to missiles, from S. A. C. bases abroad to missile-launching submarines, from radar stations in the Arctic to satellite reconnaissance vehicles.

We now come to our second strategic task. Although All-Out War is our gravest danger, it does not represent the most likely threat. If All-Out War becomes our only means for meeting aggression, the Soviet Union can use its All-Out War capability as a shield behind which to achieve limited advances, confronting us in each case with the choice of yielding or of precipitating a world-wide holocaust.

Our Strategic Task II is to meet—with highly trained, very mobile forces—local military threats which, if not met firmly and promptly, may lead to a step-by-step encroachment by the Soviet Union on nations presently outside the communist area of domination. We need forces able to intervene rapidly and to make our power felt with discrimination. The composition, training, equipment, transport and supply of the forces required for such prompt and effective intervention must be those best suited to the tasks, which may vary from conflicts involving several countries to minor police actions.

Planning, preparation, and command of forces for this Strategic Task II must be unified and represent the combination of means best suited to the job. Moreover, committing and supporting such a force in a military operation must not drain strength from the forces required for Strategic Task I. For it is the very existence and readiness of Strategic Force I which creates the greatest deterrent to the spread of a limited war.

How then does our Defense Organization match up with these two principal Strategic Tasks? I cannot improve on the statement in our report on this subject which was as follows:

"It seems to us that the major defects in the present organization are inherent in its structure. They cannot be removed by modifying it. They will be further aggravated by the passage of time. These defects are three in number:

1—The roles and missions assigned to the individual military services have become competitive rather than complementary because they are out of accord with both weapons technology and the principal military threats to our national safety;

2—The present organization and responsibilities of the Joint Chiefs of Staff preclude the development of a comprehensive and coherent strategic doctrine for the United States;

3—The Secretary of Defense is so burdened with the negative tasks of trying to arbitrate and control inter-service disputes that he cannot play his full part in the initiation and development of high military policy.

"The range and destructiveness of modern weapons have tended to overleap the traditional boundaries among the services. As a result, our effort to develop an integrated national strategic plan has been beset by inter-service rivalry. This rivalry is not due fundamentally to 'parochialism' on the part of our military leaders; it is built into the present assignment of roles and missions.

"Ten years ago, whatever else was hoped for in the new defense organization, one result was expected by the public: that through joint planning by the Chiefs of Staff, supplemented when necessary by the authority of the Secretary of Defense, there would be a coordinated and harmonious development of our potential in all three media of operations: land, sea, and air.

"Such has not occurred. With the advantage of hindsight, it is now clear that the organization itself doomed this important goal. For the assignment of roles and missions among the Army, Air Force and the Navy has become increasingly inconsistent with the new technology. Hereto-

fore, the Army has been assigned the task of winning a war on land; the Navy has been charged with control of the seas and the Air Force has been responsible for dominating the sky. Thus the method of transportation by which a weapons system moved determined which service controlled it.

"Until the development of long-range airpower, the division of functions, based on methods of locomotion, worked relatively smoothly because it reflected the actual tasks each service had to perform. Each service was therefore able to develop its own strategy and to develop under its own control the weapons required for achieving its mission. But the revolutionary advances in technology have made the traditional division of functions increasingly obsolete. Given the range and destructiveness of modern weapons, the present assignment of roles and missions forces each service to duplicate the efforts of some other service. Thus one service, the Navy, operates in all the media—sea, land and air. Other missions are shared by two or more services, such as tactical air support. There are three services with airpower and two with armies; the Air Force is responsible for coordinating air defense but the Army is responsible for the air defense of specific targets. And there are three separate service war plans with the common tendency of reducing the reliance on other services as much as possible.

"Thus the division of functions which worked without fundamental frictions until the end of World War II has led to bitter conflict in the nuclear air age. It is inherent in the philosophy and training of each service that it should see in any developing enemy threat, predominately those elements which its own particular organization seems best adapted to counter. And each service by a natural rationalization judges the proper balance of forces to be the one which maximizes its own role.

"A duplication of weapons systems and a wastage of scientific talent is inevitable. This prevents us from drawing the full benefit from our military expenditures, and forces our policy makers constantly to arbitrate among sharply conflicting advice. New weapons are placed in the strait jacket of obsolescent missions instead of missions being reshaped to conform to an evolving technology and to new military problems.

"Conversely, the present organization may neglect certain vital tasks. An example is the problem of airlift for the ground forces. To provide such facilities is an Air Force responsibility. When budgets are tight, the Air Force is understandably reluctant to favor this mission at the expense of its primary task of defeating the enemy in the air, especially against the background of growing Soviet strength in planes and missiles. On the other hand, the Army is prevented by the arbitrary assignment of functions from developing and operating the transport aircraft required to move forces swiftly to the combat zone."

The Joint Chiefs of Staff is a committee of the senior officers of the three services plus a chairman. The strategic planning and command of our forces depend for their direction upon this committee whose members consist of the heads of services which are highly competitive. This competition exists and is growing because their traditional jurisdictions have been made obsolete by modern weapons technology. Committee management is perilous even in minor affairs. It is perilous indeed at the highest level in our military establishment.

As leaders in business organizations, you who are gathered here today, do not have to be reminded of the need to match your organization to the task to be performed. You also know the inherent weakness of relying upon a committee to direct anything. Moreover, a committee of people with sharply conflicting interests is hardly the sort of group you would rely upon for developing the strategic plans for your business. Yet that is essentially the mechanism we have for developing our strategic plans and commanding our forces. The result is that our military plans for meeting foreseeable threats tend to be a patchwork of compromise between conflicting strategic concepts, or simply, the uncoordinated war plans of the three services.

In our report we recommended changes in the structure of the Department of Defense and the Joint Chiefs of Staff. These and other proposals are now under study by the President. Unless the changes which are adopted provide for single planning, development, and command, we will fail to correct one of the most serious and expensive handicaps we now have. Removing this handicap will effectively improve our military capability to deal with the major strategic threats which face us.

These matters are of concern to all of us. Our survival and the survival of freedom in the world rests heavily upon us. Time is running against us. This is not a time for despair or complacency. It is a time for resolute determination, for action in keeping with our response to the great challenges of our past.

"Space" and the Air Force

THE IMPORTANCE OF BASIC RESEARCH

By GENERAL H. F. GREGORY, *Commander of the Air Force Office of Scientific Research, Air Research and Development Command, Washington, D. C.*

Delivered to the Aviation Writers Association, Washington, D. C., March 27, 1958

JUST A LITTLE over a year ago on the occasion of opening an astronautics symposium jointly sponsored by my organization, the Air Force Office of Scientific Research, and Convair, I made the following statements to the some 600 delegates who were in attendance:

"Flight outside the atmosphere is a reality; although it may be somewhat early to be building space ships, it is not too early to start thinking about it."

The general reaction to these statements and our maiden effort to define astronautics realistically for the public was most encouraging. The coverage of the symposium by information media and resultant newspaper, magazine, television and radio releases were excellent. However, such favorable reaction, I regret to say, was not shared by all. For example, an editorial in a New England newspaper, entitled "Science Fiction Goes Respectable," had this to say:

"In 1957—a Brigadier General of the U. S. Air Force came right out and declared that flight outside the atmosphere is now a reality. Now General Gregory may have his hobbies, the same as anyone else. Space travel may be one. But, our hunch is that the Air Force isn't among them. This was the year the science fiction boys were outdistanced.

They may never catch up again."

I am not going to tell you that this editorial represented an isolated case of thinking; you know differently.

For several years, many of us in the Air Force, leading scientists throughout the free world, and farsighted members of the press have firmly believed that "space" represents the future operational environment of the Air Force. The events of the past year have certainly supported this belief and offered clear "vindication" from those negative and short-sighted opinions that may have existed less than a year ago.

Next month at Denver we will hold our second annual Astronautics Symposium, this time jointly sponsored by the Institute of Aeronautical Sciences. Again, top-level scientists, research personnel from industry, and the military will meet to exchange ideas, review the state of the art in the sciences, evaluate progress made toward solution of the myriad of problems related to extra-atmospheric flight, and isolate new problem areas for research.

You may be wondering why the Air Force Office of Scientific Research joined last year with a segment of the aeronautical industry and this year with a technical society, in the sponsorship of astronautical symposia. Also, what our mission is in the Air Force—and, specifically, the reasons for our interest in astronautics. I will spend a few minutes in answering these questions.

We in the Air Force believe that astronautics holds promise for the acquisition of scientific knowledge which will influence and enhance man's activity in all fields of science. As this knowledge expands, solutions to critical developmental problems faced by both the military and industry will evolve.

Today we are witnessing a transition from jet aircraft to the missile, from atmospheric flight to extra-atmospheric flight, and from hypersonic speeds to those of almost fantastic proportions. I do not believe that there will be any dramatic breakthrough in the state of the art that will convert our existing Air Force into a space force relatively overnight. But I do believe that the extremely critical transition to astronautical operation can and must be expedited by increasing the stockpile of fundamental knowledge that can be applied to the problems of development that this transitional period in aviation history now imposes upon us.

History has demonstrated beyond any doubt that success in battle is highly correlated with logistical support. Without adequate stockpiling of "bullets and beans", the elements of battle, rifles did not fire. Without the free flow of these elements to the front line of battle, firepower was ineffective and non-existent. Likewise, without a stockpile of new knowledge on which to draw, weapons become obsolete, and without a free flow of information throughout the scientific and engineering community, the results of research are ineffective and incapable of application.

This is our military interest in astronautics, although we certainly do not fail to recognize that the accrued dividends from astronautical exploration will also provide peaceful, non-military applications, which will directly benefit the American standard of living and that of mankind. In this connection, I am speaking not just as a military airman, but as a member of that larger community of individuals who believe that military-supported research has unlimited possibilities for benefiting humanity. The past half century of exploration in the use of the earth's atmosphere has been but a forerunner to that larger adventure—the investigation of space and the application of new knowledge for human progress. Airmen share fully in the contention that outer space should be reserved for peaceful purposes, and we look forward to the day when astronautical research can have as its unique by-product, peaceful applications.

However, this long-range objective must be tempered with reality. We cannot be lulled into the blissful euphoria of believing all others share this objective of world peace and progress. An aggressor can turn the exploration of space to military use and pose a new and even more serious threat to our national well-being. The hard, cold facts of Soviet technical growth and capability make it imperative that we attain the capability to control the space about us until the day when the entire world shares our objective of peace.

Within the Department of Defense, the Advanced Research Projects Agency has been established to insure that we attain this capability as quickly as possible and, in any event, prior to the time when the use of space can become a real threat to us. This agency represents a large stride in the direction of adequate military preparation for the space age. I am sure it will make contributions in the vital areas of establishing worthwhile projects, setting priorities, coordinating efforts, and guiding the many participants in these undertakings. The initial decisions of the new Director of ARPA, Mr. Roy W. Johnson, have shown that we are on the right track in capitalizing on the accomplishments and potentials we already have because of our past efforts.

ARPA has as its objective the application of technology to the space age. My organization, the Air Force Office of Scientific Research, is charged with directing the expansion of basic knowledge essential to that technology. Our job is to provide the impetus to the scientist so that he may roll back the frontiers of our knowledge of natural law.

The Air Force Office of Scientific Research is one of the subordinate agencies of the Air Research and Development Command—a major command of the U.S. Air Force. Our mission is one of fundamental, theoretical or experimental investigation to increase man's knowledge and understanding of the natural world, and to recognize the implications of new scientific knowledge for weapon system concepts. Our capability to carry out this mission is represented by a large body of scientists, working under contract in universities, in industry, in foundations, and in government agencies.

This is a task which requires foresight and judgment, but perhaps it is the most challenging because it shares in the natural urge of man to know and understand the world about him. The horizons of our curiosity and our imagination have the infinity of space. However, as military men, we have as our objective to keep ourselves immersed in the reality of where we are, as we try to reach the goals which our imaginations set for us. We must keep a perspective both of dreams and of reality so that our dreams can become real.

Since most of the some 700 AFOSR research projects are conducted in universities; although industry is certainly not excluded, a very significant amount of graduate student training results as a secondary benefit of our research program. In view of the serious shortage of scientific personnel, a basic research program such as ours has a valuable long-term advantage to the enhancement of our scientific manpower resources.

We define our research program in AFOSR as one of exploratory research. In this connection, we consider basic and applied research to fall into two categories: supporting and exploratory. We define supporting research, basic or applied, to be requirement oriented; for example, a question is to be answered or a problem is to be solved. In this respect, supporting research is solicited and *directed* in nature. On the other hand, exploratory research, basic or applied, is considered that research conducted without a specific end item in view, but rather research oriented toward increasing the sum total of human knowledge in Air Force functional areas. Exploratory research is considered *non-directed*, and unsolicited in nature.

Much has been said and written recently about basic research; its importance and particularly the role it must play in achieving the technical perfection demanded by weapons of the future. You as aviation writers have clearly supported this thinking by word and deed. I have read your material in news media and I have admired your dedication to the conviction that our country must at no time fall behind a potential enemy in the technological perfection of our military vehicles. In this connection, you have accomplished a great public service.

For several decades we have taken great pride, and justifiably so, in our ability as a nation to rise rapidly and vigorously to any challenge. This has been possible because of our unsurpassed industrial and economic potential, reinforced by superior scientific and technical know-how.

There is no amount of effort, no amount of money, no amount of self-sacrifice, no amount of manpower, and no amount of machinery that can produce this "know-how" if it is not available in superior quality and quantity for immediate application when needed. Should an emergency arise it would be necessary to respond with available operational weapons. There would be no time to gain new fundamental knowledge which could be immediately applied to offset any technical advantage reflected in the weapons of the enemy. Hence, it is essential that during time of peace we maintain, whenever and wherever possible, a scientific lead over any would-be aggressor. This is the only way in which we can assure peace through a retaliatory capability. This is a precious commodity and the use of time wisely to enhance our technical capability through aggressive exploratory research is one of the best and cheapest investments I know in the security of our country.

I would now like to put some of the speculation as to the future of astronautics in the perspective of the limits of reality. The scientist has expanded our knowledge to a remarkable degree. The rate at which he has made this expansion has caused us great optimism concerning future break-throughs. But, regardless of how much we do know, there still remains a great amount which we must learn before we can conduct that interplanetary travel and space exploration which has been discussed so much of late.

Future knowledge will stem from certain principles which have guided the airman in the past and which will continue to guide him in the future. The first of these is that there is a single continuum which surrounds the earth. Air and space are convenient ways of describing several parts of what really is a unified phenomenon. Any effort to define a dividing line between these two is so artificial that it should be apparent that we are talking of a single medium. Similarly, a distinction between aeronautics and astronautics is a convenient way of describing specialized segments of one applied science which deals with the infinite realm of the airman. As we have achieved higher altitudes, longer ranges, and greater speeds, we have looked at each achievement as another step toward further progress. The airman has never rested on the attainment of any limited goal, but has always kept the next step as a future goal to be attained. But the key to such progress has always been new knowledge, pushing back the barriers imposed by the "state of the art" in a science at any one time.

Progress demands new knowledge—in materials, in physics, in aerodynamics, in electronics, in the biological sciences and in propulsion. Illustrative of the vast implications of propulsion sciences for the future of the Air Force, I would like to elaborate somewhat on this subject. In the presentations that are made on space travel, one of the facets that is frequently overlooked is the amount of payload that one can carry with rockets such as we know today and which are representative of the state of the art of our modern technology.

Much discussion has appeared recently on novel methods of propulsion. The entire field, for the present, should be taken with some caution. We are probably capable of designing and constructing thrust devices other than rockets, which will give a sufficient amount of thrust to perform reasonable missions, provided one does not consider as part of that thrust device its source of power. In other words, present thrust devices allow us, together with the source of power, to consider possibilities of milli-"g" acceleration. By this I mean one one-thousandth of the acceleration that can be obtained from the gravitational attraction at the earth's surface. Of course, if you consider that we use rockets to take off from the earth's surface for placing the vehicle in orbit, milli-"g" operations allow one to go from one orbit to the other, to as far as the moon and possibly some of the planets. However, the time scale of getting there is expanded again by a factor of about a thousand. These long periods of time, of course, raise other problems which are essentially biological, but are not limited thereto.

The Air Force, however, is interested in extending its future operational capability beyond the present state of the art. Now, if I were to ask for a reasonable vehicle which would weigh something in the order of three tons, and if I were to expect to achieve an acceleration equivalent of 1 G for a period of, say, 4,000 seconds, I have now gone completely out of the range of supplying the power source for this vehicle with chemical fuels or any type of storage system that depends upon the energies in molecular systems. You will note, I didn't say nuclear systems. In other words, any type of fuel that we have today, any battery, any chemical process, or any storage system depending on molecular processes would not be capable of supplying such power. Nuclear systems can, of course, provide this sort of power since the energy that one must draw on comes from nuclear reactions which are considerably more energetic. However, these high power rates are accompanied by the generation of neutrons, gamma rays and other radiation from nuclear reactions which present a problem of shielding in order to provide for a manned system. Below the energies associated with nuclear events and above the energies associated with chemical or molecular processes rests a large region which is relatively unexplored.

To provide a propulsion system from this region will require a considerable amount of new fundamental knowledge. The major proportion of scientific work supported by AFOSR in the field of propulsion is considered to be on the frontier of knowledge. One of the functions we try to emphasize is to determine where this frontier exists and then project it into the future.

I believe the best way to give you a feeling for this is to discuss the major features of the picture that is developing from exploratory research now underway. We are, of course, farthest along in obtaining propulsion from chemical energy in the molecules of the reactants. However, we have reached the stage where we have to pay dearly for any significant additional improvements. That is not to say that some of these space missions can not be performed by chemical rockets, as a matter of fact, it may be that they will be first performed by such vehicles. However, this will be done by a brute-force method. Notwithstanding, we are not giving up the search for answers, as to the possibility of obtaining somewhat greater energy from molecular reactions. The work on free radicals could be classed in this group. The improvement here might be as much as twofold, so that the effort, besides the valuable information which is being generated, might pay off by increased propulsive capability.

A major difficulty of the chemical rocket is that the working fluid is tied to the energy source. In the case of these types of

rockets one would like the lightest possible fluid. However, this is not feasible when the fluid has to be formed from the products of combustion. The search for more adequate propulsion systems is now being directed toward methods which will use a separate energy source; that is, a source that is separated from the working fluid. This might be, for instance, a nuclear reactor furnishing the energy and hydrogen for the working fluid. Both of these systems require that the working fluid be accelerated by heating it first. Therefore, we are limited in the exhaust velocity that the fluid can obtain by the temperatures that the chamber walls of the rocket can withstand. If we are to obtain higher exhaust velocities, we must look for other means for accelerating the working fluid.

The recent work in magneto fluid dynamics holds promise that such a goal might be achieved. Here, the idea is to ionize the working fluid so that energy or momentum could be transferred to it by an interaction between the fluid and the electromagnetic field. This is similar to the acceleration of electrons in a vacuum tube or in a television tube. At first glance this idea is very attractive, since the acceleration is not limited by the usual difficulties in chemical rockets, but a sober look at this scheme shows that our present know-how is hardly enough to touch the problem. The gain we have from using electromagnetic acceleration is a saving in the working fluid that must be carried, but on the other hand, the price we pay is that the power requirements are much higher than those in chemical rockets.

As in all cases, no one scheme is suitable for all missions, however we get some idea of the magnitude of the problem from a comparison of these various systems for a specified mission—let's say a trip to Mars. A very rough estimate for the weight of a chemical rocket to perform this mission is about 7½ million pounds of initial weight for a basic load of 50,000 pounds and exploration equipment of 60,000 pounds. This weight could be reduced to 2½ million pounds if a better fuel were used; that is, using 420 seconds specific impulse instead of 300 seconds. Compared with this is the weight of a nuclear rocket which is in the neighborhood of about a half million pounds for the same basic payload and exploration equipment. An ion rocket with the energy supplied by a nuclear reactor has about the same weight, if you assume that the specific weight of the power plant would be about 10 pounds per kilowatt. However, one could be more optimistic and hope that the power plant weight could be reduced to 1 pound per kilowatt, and then the propulsion system would look considerably better.

You might think that these considerations are all of an engineering nature; however, I mention them to point out that even a reasonably good design study will require knowledge that does not yet exist. Those engineers who feel that there is a lack of necessary data for the present developments will realize how much knowledge is lacking about some of these new concepts. Many of the principles that I have talked about we have met in other connections, but new applications require a new look at the principles involved. When we discover a new facet of an old principle, we usually find it followed by a significant technological breakthrough. From these remarks, you can deduce the amount of work which lies ahead before we can apply new concepts to experimental models or even development models employing new types of propulsion. I am not trying to play down the value of such concepts, but I am trying to indicate the long road ahead of us.

Time does not allow me to discuss in detail the several other fields in which we must greatly expand our basic knowledge. Suffice to say, research is not at a standstill in any of these areas; we are moving ahead. I would like to emphasize, however, in pointing out our vital need for new scientific knowledge, that I am not being a skeptic or a pessimist. I am optimistic about the future, but at the same time I must sound the warning that we must be realistic in accomplishing the great deal of work that lies ahead.

I believe my remarks can be summed up by saying that we, as Americans, can no longer enjoy a virtual hunting license in the area of scientific exploration. It is open territory for any nation desiring to effect a scientific probe into the secrets of the universe. Since the earliest days of mankind, civilization has progressed primarily through the minds of men in unlocking these secrets of the universe. Such secrets, however, are not of the kind we normally associate with a military operation. They are available to all men, irrespective of the motivation that impels their discovery. They cannot be held as a private domain by security classification, nor can a scientific breakthrough by a would-be aggressor be rationalized as a security violation, a compromise, or the taking of something that is rightfully ours.

We can, however, join with other free nations in the building of scientific capital through accelerated, dynamic, and farsighted exploratory research programs. The amount of knowledge in the storehouse, our ability to communicate this knowledge, and the timely and effective application to military hardware may well provide the means for preserving our democratic way of life and reaching our ultimate objective of peaceful astronautical exploitation.

The Polaris Submarine

UNIQUE MARRIAGE OF THE MISSILE OF OUTER SPACE TO THE ATOM-POWERED SUBMARINE

By REAR ADMIRAL W. F. RABORN, *United States Navy, Director, Special Projects Office, Bureau of Ordnance*

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I AM particularly pleased to have this chance to address the members of the Navy League on this occasion. Because there have been few periods in our history when the Navy League has been in a position to render a greater or more tangible service to the Navy than right now.

As you so fully realize, one of the basic functions of the League is to help keep the American public informed of the Navy's job and responsibilities in times of peace, and of the problems which our Navy faces. The Navy League has been of great help in impressing on the public the need for supporting a strong and vigorous Navy as an instrument of sea power and as an absolutely vital factor in our national security.

There has been so much printed in the press and said over the air about our various missile programs that a substantial amount of public confusion on this subject is hardly surprising. I believe that this is an unusually good opportunity for the Navy League to play an active part in helping to clarify just what the Navy's Polaris Missile Program is, and where

it fits into the broader picture, not only in terms of our various missiles, but also in terms of our defense program as a whole.

Perhaps no program in our defense plans illustrates more forcibly just how much we've had to change our preconceived ideas of what weapons belong where than does the unique "marriage" of the missile of outer space to the atom-powered submarine.

I am sure that I do not have to tell you, the members of the Navy League, of the basic difference between the various so-called "guided missiles" being developed by the Army, the Air Force and the Navy, and the several programs concerned with developing rocket weapons which will use outer space as their medium of flight. We have all had to become familiar with a new terminology. "ICBM" and "IRBM" have become familiar words in our vocabulary, and the names Atlas, Titan, Thor and Jupiter have taken on new significance, as have the purely scientific Vanguards and Explorers. We have even had to learn an entirely new word, "Sputnik", which has become very familiar.

What many people do not realize, however, is that in the Polaris program we are talking not only of a missile . . . or "bird" as it is commonly called, but of a wholly new concept of weaponry, the dispatching of this "bird" from beneath the surface of the sea.

That is the basic difference between the Polaris project and the other ballistic programs under development.

There are really three things that set Polaris apart from the other outer space weapons in the ballistic missile category.

The first, of course, is that the missile itself has had to be designed within the limitations of space and weight which would permit its being carried on board a submarine. That has required some very radical changes in design from the currently developed land-launched missiles where these conditions do not apply.

Though it will have the capability to carry a thermo-nuclear warhead, that is, the H Bomb, as its payload, and though it will have about the same 1500 mile range as the Army's Jupiter and the Air Force's Thor, the "bird" itself will be very substantially smaller than either of these other missiles. It will, in fact, be small enough to permit carrying quite a sizable number of missiles in a single submarine without increasing the size of such a vessel appreciably beyond present nuclear powered submarine dimensions.

More significant, perhaps, is another difference between Polaris and the land-launched "birds". This is in the propellant which will drive the missile far into outer space and build up the speed needed to give it its full range.

The Polaris propellant will be a solid fuel as opposed to the present liquid fuels used to drive both the land-launched weapons and the scientific rockets such as the Navy's Vanguard and the Army's Explorer. It was another case of "necessity being the mother of invention" for the development of such a solid fuel was a vital factor in making the sea-borne missile possible at all. There was just no practical way to store or handle liquid fuels effectively or safely on board a submerged submarine. The Navy's technicians simply *had* to come up with a wholly new kind of propellant fuel if the concept of the Polaris system was to be translated into a military reality. In developing such a fuel a real scientific breakthrough was scored.

Leaving the missile itself for a moment, let's look into the wholly naval problem of designing ships to carry it and equipment to launch it from below the surface . . . in fact, from quite deep below the surface.

Fortunately, we already had in existence, and fully proved out, the ideal naval missile carrier, in terms of the nuclear powered submarine. Here was a vessel which had already demonstrated that it could operate independently of its land bases for months at a time, that it was free of the shackles of fuel limitation, that it could go where it wanted to go without counting the gallons of fuel left in the tank.

Our nuclear submarines have shown that they can travel fully submerged for thousands of miles and at high speed. I am sure that you all read about the record recently set by the submarine "Skate" in voyaging from a European port to New London in some 7 days . . . *under* water all the way. You may have read, too, that another one of our nuclear submarines, the "Nautilus", journeyed more than 1500 miles under the Arctic ice pack during a single voyage.

Our job in the Polaris program was to design stowage, handling, launching and fire control equipment, which would permit submarines of this type to be used as the launching platforms for the missile.

This involved a whole flock of specialized problems which, I am glad to say, have been very largely solved. I would like to touch on just three of these as typical of them all.

One was to develop equipment which would fire such a missile from below the surface and get it up into the air, where its rocket engines could ignite and take over the job of propelling it hundreds of miles into outer space. This device is now actual "hardware", and is under daily test even before the missile carrying submarines are built. In a few minutes you'll see some movies of the test of this launcher—which we've aptly christened "Pop-up"—firing dummy missiles from below the surface of the Pacific. Before building a launcher to use under water, we had made extensive tests with another device, this one being called the "Peashooter", which fired similar dummy missiles from a land position and taught us much of what we needed to know in designing the underwater device.

The other item I'd like to mention as typical of the specialized problems we've had to resolve is that of navigation. I find quite a few people do not realize that one of the absolute "musts" in firing a missile at a target fifteen hundred miles away is to know where *you* are, and very exactly, at the instant of firing. Otherwise, you can make an awfully costly error in your aim.

In terms of the practical value of ballistic missiles as military weapons, the real core of the development problem lies in the effectiveness and dependability of their guidance systems. We know, and the Soviets know, that rockets can attain the speeds and ranges called for. That has been proved in actual test. Now the real trick is to make sure that these rockets will actually go where they are directed to go, and do so dependably and within very close limits of accuracy.

Unlike the missile technician beyond the Iron Curtain, we must make our tests in a goldfish bowl. Reporters, movie cameras, TV and radio carry to our public the details of almost every firing at Cape Canaveral, so that everybody knows when a test has worked and when it hasn't. What they do not know, however, is just what facet of the problem is being tested, what results can be expected, and to what degree each test forms a valuable part of the overall pattern. I'd like to emphasize that we have every reason to be encouraged by the state of our missile guidance as of now. We believe that the tests indicate clearly that guidance development is keeping fully abreast of the development of other components of the program, and that our eventual "birds" will be well trained and dependable. We are constantly narrowing the margin of accuracy which we set in our specifications for the guidance devices.

So we've had to develop new and far more exact methods of determining a ship's position than anything needed for normal navigation. We had to take into account that the firing

ship would be submerged, and might have been so submerged for days before the firing took place, so that it had to be able to determine, under water, its exact latitude and longitude. This problem, too, is well in hand. In fact, we converted a Mariner type merchant ship into a special navigational test ship, the "Compass Island", which has for more than a year been testing and refining the new navigational devices needed to accomplish our purpose. I'm happy to add that this phase of the project is also very much under control.

The questions which are possibly asked of us most frequently are three in number. They are: "Where do you stand in this program?", "How many missiles will we have when it is completed?", and "How will this new weapons system be used?"

The first of these questions must be answered in two parts. One deals with the performance of the hardware, and the other deals with the time table.

While we have not fired any complete Polaris missiles to date, we have launched what are called "test vehicles", successfully, and have put virtually every component of the entire weapons system to practical test. That includes the new solid propellant fuel.

It is not violating any security factors to report that we believe that the basic problems have all passed from the scientific to the engineering stage, so that no new "breakthroughs" are required to carry this new weapons system into reality.

We are much farther along, technically, than any of us had dared to hope even a year ago. We have collaborated closely and whole-heartedly with our colleagues of the Army and the Air Force on many elements of the development, and have gained much from such teamwork. We hope that they have profited equally from contact with our technicians.

As to the time table of the program, I firmly believe that we will have actual operational missiles in 1960. We have moved up the dates of our proposed test schedules time and again, and expect now to be in business with an operational weapons system on about the date we had originally set for the beginning of our actual tests. If there is any way that we can beat the present time table, you may be sure that this will be done, and without any prodding by anyone.

The question as to "How many?" I will answer this way. For one thing, of course, the exact number of missiles to be carried by each submarine is a classified subject. But I can say that the number is very substantial and very impressive. Suppose we leave it at that. The present number of Polaris launching submarines actually authorized by Congress stands at 3. Funds for another two are included in the 1959 fiscal year supplemental budget request sent to Congress last week. How many we will have in the future, I do not know as it is my job to turn out a finished and efficient weapons system. The number of these systems which we will require must obviously be determined by national policy.

Now, I'd like to spend the rest of the time allotted to me on the vital subject of the place of this weapons system in our over-all defense plans.

In Polaris we have combined the almost limitless cruising range of the nuclear powered submarine and the vast potential for concealment offered by the ocean depths with the longest range, highest speed and most lethal weapon ever developed, the H-Bomb Armed Ballistic Missile.

In its purpose this weapon is primarily a ***deterrent*** to aggression, for if it is ever actually fired the chips will be down, and the all-out general war will have become a tragic reality.

As a deterrent, however, the Polaris weapons system will fill a needed and entirely unique position on our "team" of capabilities to retaliate instantly, unpreventably and with annihilating fire power.

Polaris will add to our network of land bases, both in this country and overseas, a system of mobile, fully concealed missile launching "bases" wholly under our own flag and control. They will enable us to shift the weight of our military firepower from one area to another, quickly and secretly, adding strength when it is needed.

Polaris will bring within range of direct attack from the sea virtually all important military targets in the Communist controlled heartland. It can reach these targets in some fifteen minutes from the instant of firing. With a relatively small number of submarines on station, dozens of Polaris missiles, each carrying the H-Bomb, can be sped on their way even before the first salvo has landed.

With their world-wide cruising radius, nuclear powered submarines can patrol for months at a stretch, move submerged at high speed for thousands of miles. They will be almost impossible to locate and trace by even the most advanced methods of surveillance. The very knowledge that they are there, within range and ready to launch their missiles within minutes, would exert a strong and constant deterrent influence on any leadership, no matter how reckless or power crazy.

No one connected with our missile development, least of all those of us who are dedicated wholly to the Polaris program, minimizes the need for our complete defense structure, here and abroad, our bases, our forces overseas, our alerted strategic air command and our mobile carrier fleets or for our Navy both on and below the surface charged with keeping the seas open for the free world.

We do feel, however, and very deeply, that in the Polaris project we are developing a weapons system for which the country has a pressing need and without which there would be a serious gap in our over-all defense structure. That the potential enemy would exploit such a gap to the utmost is hardly a matter for debate. He is very adept at finding weak spots and at taking full advantage of them.

Now, you of the Navy League can be of highly tangible service to the Navy in passing along the word about the Polaris program to the many groups with whom you come in contact. You can help by clarifying what this project really is, how it fills a place of its own in our defense plans, and how important it is that this place be filled.

The Polaris project is ***not*** "in competition" with any other weapons development, nor a duplication of effort at public expense. It is not an infringement on the role of any other military service, but stands on its own feet providing a form of potential fire power and a strategic use which, quite obviously, no actual or proposed other weapons system can duplicate.

Possibly most of all, you can serve the Navy by getting across to the public the Navy's daily awareness that so complex and urgent an undertaking as the Polaris program owes much to the know-how and painstaking research of our country's scientists and technicians, to the resourcefulness and collaboration of its industry and to the countless contributions which have been made all the way up and down the line to help resolve the big problems and the little ones, not only on schedule but many times well ahead of schedule.

Finally, I'd like to leave this thought with you. The Polaris project is not a part of any scientific competition to solve the secrets of outer space, to land a man on the moon or to develop interplanetary travel.

It is a grimly realistic race to meet and cancel out weapons development beyond the Iron Curtain. It is a race to provide the sobering realization to potential aggressors that no thor-

oughly staged surprise attack can wipe out at a stroke *all* sources of immediate retaliation in nuclear dimension.

Polaris is a weapon which will serve its purpose best if by its mere existence and readiness it completes the chain of deterrents needed to enforce all-out peace. To speed the day when that readiness becomes a fact is the purpose to which all of us have dedicated everything that we've got.

I thank you.

The Pentomic Division

NEW WEAPONS AND NEW DOCTRINES

By GENERAL WILLARD G. WYMAN, *Commanding General, U. S. Continental Army Command, Fort Monroe, Virginia*

Delivered to the Philadelphia Chapter, Military Order of the World Wars, Philadelphia, Pennsylvania, April 3, 1958

MY PREVIOUS visits to Philadelphia haven't all been as pleasurable as this one. This may sound odd to you since all America reveres your city as the cradle of our independence. Everyone knows that monumental happenings here over the years have borne heavily on our destiny as a nation. But something happens now and then in Philadelphia that provokes my complete despair. I believe it is because Philadelphia is the scene of white-hot inter-service rivalry! Why as recently as last November, the Navy ripped into the Army and tore it apart with 100,000 people witnessing the debacle! I believe the score was 14 to 0. But as you'll learn before I wind up these remarks, the Army is far from being obsolete. We're better than ever in every direction!

I derive particular satisfaction from talking to organizations such as your Military Order of the World Wars. I think that groups like this are vital to our security. Having suffered the penalties for unpreparedness, you are dedicated and alert defenders of our liberties. Veterans are generally the first to pinpoint our most insidious enemy. This enemy is not the armed might of a potential aggressor. It is more powerful than that. Our enemy is complacency—certainly no stranger to us. It cripples with devastating speed, and seldom is recognized before it tramples its adversary into impotence. Our people have succumbed to this enemy before by failing to grasp the true significance of international events. The Army too has fallen victim in the past by permitting decades to pass without forcing changes in weapons, tactics, and mobility.

Complacency wears numerous disguises. My own experience as a cavalryman taught me that it can appear clothed in blitheness and *esprit de corps*. It won't startle you when I say that cavalrymen used to regard themselves as something quite elite. In our day we personified what the Chrysler people now advertise as the "forward look." Our zeal and flair stemmed from the knowledge that we could move faster and with more flamboyance than all the other combat elements in the Army.

Indeed, we led colorful, exciting lives. Cavalrymen as a group considered themselves the most progressive humans on earth when it came to the exercise of maneuver. Our horses glamorized us to the unknowing, but to serious students of military science, they branded us as practitioners of an ancient trade. To them, we were the casualties of a barren period in military technology with our mobility lagging far behind developments in weapons and tactics. It was ironic for us to realize that we could not move with any greater speed than the horsemen of Alexander the Great, 2,000 years before! And that's going on the assumption that his mounts did not surpass ours in fleetness and stamina!

How shattering to think of the hundreds of years that saw almost imperceptible change and then suddenly observe events that make us think we can reach the moon in a short time! Yet, we cannot afford to sit back and stare with wonder at the occurrences, however awesome their impact. The rapid succession of breakthroughs in scientific fields since World War II make it mandatory that we strive to keep pace with the times. Each advancement carries the stern admonition that to remain immobile in thought and action is to invite destruction. It is deceptively easy for even a watchful Army—one toughened in the bloody arena of experience—to ignore these threats.

To illustrate: back in the early 18th century, when firearms were new to military science, the tactical influence of European armies was ingrained everywhere. From the British Army came General Braddock to protect the colonies from the greatest light infantryman the world has ever produced—the American Indian. Braddock brought with him the European concept of mass, but his only accomplishment in the New World was to dig a mass grave for himself and his men in the western reaches of Pennsylvania. But it was almost 200 years after Braddock's defeat before we modified his concept of mass. At that, it took the brutal losses in front of the machine guns of World War I to shake us loose from our mental stagnation!

In these critical times, we cannot count on being the beneficiary of someone else's military blunder. The penalty for failure is too severe. Braddock, and other devotees of his hidebound doctrine, paid dearly for their blindness, but their nations managed to survive. Present-day science has ordained, in effect, that the loser in nuclear conflict forfeits an entire society. It is manifest then that we do not have 200 years to assimilate the tactical facts of life. In the light of current Communist capabilities, can we count on 200 days?

Recognizing that time no longer is our ally, what has been our response to this cry for action? What have we been doing to insure that we'll be right the first time—the *only* time?

We started by brushing aside the man held fast by custom—the fellow who always searched the depths of the past for the key to the future. We called a permanent recess for the "stand pat" school of thought with its fatal philosophy of "wait and see." We turned attentive ears to men of foresight and conviction who dared to paint an imaginary picture of the battlefield of the future. We undertook detailed studies of the environment they visualized to come up with doctrine that would succeed on the atomic battlefield. We established the materiel requirements needed to implement this new doctrine. We made drastic alterations in our organization for combat to adapt to these unusual conditions. And, finally, we impressed on all concerned that progressive thinking and planning is a never-ending task.

Naturally, these organizational changes could not be instituted overnight. The process had to be a gradual one to prevent a total suspension of combat readiness while the Army donned its new look. Still, the demands of the atomic battlefield could not be evaded, even momentarily. We needed an immediate capacity for meeting them. We accomplished this within the

framework of existing organizations with a doctrine known as the mobile forces concept.

We had each infantry division develop and train mobile task forces of combined arms that had a much higher firepower-mobility-to-manpower ratio than that of the standard battalion or regiment. By integrating tanks, artillery, automatic weapons, riflemen, signal, engineer, and other support elements into compact teams of remarkable self-sufficiency, we prepared our divisions in advance for the dispersion and fluidity of atomic operations.

After experimenting in maneuvers with a mobile force of battalion size, one division commander told me that three such forces could generate the same tactical impact as his entire division employed conventionally. Adoption of this concept afforded us several advantages: it gave us a required capability for immediate action in event of emergency; it started our people thinking and acting in consequence with advanced doctrine; and it shortened the transition from the old division to the new, streamlined Pentomic structure.

A radical departure from its predecessor, the Pentomic division is our first major stride toward an organization stressing power and speed as opposed to bulk. With 4,000 fewer men than the divisions of World War II and Korea, it contains more fighters and packs a more lethal punch. Its name, Pentomic, is an indicator of its strong points. "Pent" refers to the five battle groups that comprise its principal tactical echelon, while "tomic" stands for the atomic fire support means which are organic to the division.

These battle groups are very nearly independent while geared to operate over large fronts under conditions of isolation. They are unfettered by many of the administrative and logistic support functions that slowed down our old regiments. The battle group has a headquarters company, a heavy mortar battery of 8 tubes, and four rifle companies—each 25% heavier in personnel than its World War II counterpart. Pentomic rifle companies contain vastly-improved firepower. Light weapons with a marginal kill capability such as the 60mm mortar have been eliminated and replaced with 81mm mortars and 106mm recoilless rifles. Even at rifle company level, these weapons meet the standards of complete maneuverability and ease of handling.

Also in the battle group is an antitank capability far surpassing anything in that field we have known before. It is founded on a newly-developed assault gun identical to the cannon mounted on our medium tanks. This gun is married to a sleek, stripped-down full-track carrier that is surprisingly light, swift, and nimble. Other anti-tank potentials are coming along.

Backing up the five battle groups is an artillery organization featuring flexible fire support wrapped around an atomic capability. In addition to standard 105mm and 155mm howitzers, division artillery contains an Honest John rocket battery and an 8" howitzer battery. The Honest John rocket and the 8" howitzer—both capable of firing either atomic or conventional ammunition—can generate immediate response to the commander's desires. No lengthy time lapse between target acquisition and employment accompanies the presence of these atomic fire support means. Normally, the division commander does not have to go to Corps or Army for permission to fire them. Allocation of atomic weapons to the division by higher headquarters in itself carries the authority to use them at the commander's discretion.

Lest I appear too cheerful, however, I warn you that though these weapons I describe are with us their rate of availability in the hands of troops is distressingly slow.

It should come as no surprise when I tell you that this new division is by no means a permanent fixture in the military establishment. To subscribe to the Pentomic structure on a long-term basis would be as rash as a failure to adopt it in the first place. Actually, the new division is already approaching obsolescence. The Pentomic division should not be viewed as the final answer because in this business there is no final answer. We can afford to arrest our effort only when the outer limits of progress have been defined and reached. As new tools of war appear, as new operational techniques emerge, our doctrine and organization must be altered to accommodate them.

New weapons and new doctrines must always be in close harmony. If one outdistances the other, we end up with grief. Possession of the most modern tools of war carries no guarantee of victory in itself. Success crowns the efforts of those who can apply these tools with boldness and certainty. What better example of this than the tragedy of France in World War II? France was not a victim of surprise or treachery. Long before the invasion of Poland she knew that a time of reckoning with Germany was inevitable. France readied herself deliberately. Her troops numbered in the millions; they were equipped with the most up-to-date arms that French industry could provide, and supported by a major share of the national budget.

But, when the moment of crisis arrived, France collapsed with unbelievable suddenness. The reason for her defeat was that French doctrine in 1939 was designed to fight the battles of 1914! Thus did failure to keep step in the inexorable march of progress fritter away the manhood and liberty of a great nation!

Perhaps your immediate reaction to this illustration is that it can't happen here. I wonder. If we fail to think progressively ourselves, if we permit the progressive thoughts of others to be suffocated, if we fall into the bottomless pit of bickering and indecision, if our motivation is selfish in nature, *can it happen here?*

There are problems other than doctrine and organization attendant to the atomic battlefield which face the Army. Our most important item is our requirement for vertical mobility. We must have tactical aerial vehicles that will permit us to move men, weapons, and materiel to decisive points in the battle area. This combat power must be able to maneuver with speed, by-passing enemy obstacles and those imposed by nature.

Please note that I am talking about *tactical* movement within the battle area. The United States Army has no intention whatever of competing with our own teammates—only with the armies of Communism. There is no conflict of role or doctrine here—save in the minds of those who mistake the means for the mission! It is no more and no less logical for the Army to have tactical vehicles above the ground that it is for the Navy and the Air Force to have jeeps and trucks for their own purposes *on the ground!*

During these times of rapid change, it is essential that we maintain a good sense of balance. While it is later than we like to think, has it really been so long since American arms were geared to the foot and animal mobility that characterized the advances of Alexander the Great? We must guard against those who would have us run a dangerous race from one extreme to the other—from man to machine.

Particularly let us resist the spell-binder peddling the magic lure of the push-button. This type of arm-chair strategist is among the uninitiated. Rarely has he had any practical experience in actual warfare. He does not realize that the soldier on the ground, manning the tools of combat with his hands, has forever been the ultimate element in battle. It is unlikely that this role will change in any future conflict!

Men are the Army's chief stock in trade. The complexities

of men as they apply to the atomic battlefield are of primary concern to us. As a means of extending our studies on human behavior, a field laboratory was established last year at Fort Ord, California. It is known as the United States Combat Development Experimentation Center—or CDEC in verbal shorthand. CDEC is a vital factor in our drive to keep pace with progress and recognize the dim horizons of the future. It is to men and ideas what Cape Canaveral and Yucca Flat are to rockets and nuclear weapons. Literally, it is the battlefield of tomorrow—a place where academic theory pointing to new doctrine can be tested and validated through the realistic employment of men on the ground. CDEC has approximately 50 officers, 20 top-flight scientists and 3,000 experimentation troops devoted solely to this mission. It is not at all far-fetched to state that the work being done there may well produce the formula for American survival.

I hope that my words on the importance of man as the one timeless element in warfare will stay with you. In 42 weeks our service schools can turn out a radar operator to handle his one instrument to a high degree of perfection. But think of our combat units—human instruments, but really people after all—who cannot depend upon the exactness of technical instrumentation. The rifle platoon, for example, has 46 instruments of utmost diversity, delicate and utterly sensitive to the controls—instruments that must work in perfect coordination with each other. I defy any school to produce the technician to operate these human instruments efficiently in 42 weeks!

As members of the Military Order of The World Wars, you can become a part of this relentless advance of the Army and the American soldier. Your organization is a force to be reckoned with—its stature is national and its voice commands attention. Its membership numbers loyal, thinking people bound together to further a single cause—perpetuation of our free and democratic society. Give the Army your wholehearted support as it moves forward to meet the challenges of the future, and American security will never be in doubt—our heritage will pass to generations yet to come.

The Acid Test

THE ANTIDOTE TO COMMUNISM IS BELIEF IN GOD AND THE DIGNITY OF THE INDIVIDUAL

By DR. WERNHER VON BRAUN, *Director, Development Operations Division, Army Ballistic Missile Agency, Redstone Arsenal, Alabama*

Delivered at a dinner meeting sponsored by the Education Committee, Atlanta Chamber of Commerce, and Fulton County American Legion Post 134, February 28, 1958

THE ACID TEST of men and nations is the measure of their courage and resourcefulness in the face of adversity and peril. Those which have survived crises have exerted the most profound influences upon mankind's destiny. Those which failed did so because they could not manage abundance and power.

Our country has faced agonizing tests more than once during its relatively short history. It emerged each time from the crucible not without scars but with greater confidence and richer maturity. America survived crises because it knew what must be done and did it without regard to consequences, with faith in its own judgment and in the resources which had to be marshalled for the common good.

Even now we are experiencing another test. Historians may record it as one of the most fateful intervals of the Twentieth Century which has certainly had more than its share of historic events. The early days of October 1957 marked a turning point in our destiny and that of other nations, large and small. An unprecedented technological achievement suddenly transformed a troubled but familiar world into one of strange and foreboding aspect. As it has since the dawn of the Industrial Revolution, science had influenced history, and directly shaped the lives of men.

The reaction to these events has been profound. They triggered a period of self-appraisal rarely equalled in modern times. Overnight it became popular to question the bulwarks of our society: our public educational system, our industrial strength, international policy, defense strategy and forces, the capabilities of our science and technology. Even the moral fiber of our people came under searching examination. Since the evident threat was to our security, the initial preoccupation concerned modern weapons systems and means of defending against them. The Damoclean sword menacing free people consisted of a monstrous destructive force inherent in automatic delivery systems, capable of transporting thermo-nuclear warheads over thousands of miles, in *any* weather, across all geographic and political barriers, at velocities of such magnitude as to imply total destruction without advance warning.

The logical process of evaluating our position has been underway ever since: first, to determine if we possessed these weapons, and what means of defense could be erected. Actions have been taken by the Defense Department, fully supported by the Congress, aimed at achieving operational capabilities with the intermediate and intercontinental ballistic missiles at the earliest practicable date.

Perhaps it is time now, without muddying the waters further, to determine whether we have correctly assessed the total threat represented by a totalitarian regime, whose end objective is world domination.

The Soviet challenge is by no means restricted to military technology. It goes far beyond the realms of politics and armies. No longer is the task of coping with the Red menace the exclusive responsibility of generals and statesmen. The acid test involves every facet of our civilization, every part of our society: religion, economics, politics, science, technology, industry and education. Free men everywhere have been caught up in this grim competition. We who enjoy our homes, drive the family car, spend more time in leisure and less in work, who pay less attention to national affairs than to television shows, are faced with a decision—will we do whatever is necessary to win this struggle, or will we continue in our comfortable illusion and thus court the risk of a defeat which would forever eliminate freedom, and place our children and their children under the control of an all-powerful state? What we are about to discover is, whether a nation, which has rated its home run sluggers and its fullbacks above its scientists and philosophers, can meet the total competition of aggressive communism, and still preserve its way of life.

It will not be enough to perfect weapons systems which must have at least equal capability with those of a potential aggressor. Others have pointed out that the deterrent effect of these machines of war may cancel the possibility of total

conflict. It has been argued that this will turn aggression into another direction: that is, the perimeter or brush-type war, in which the huge rockets of great range and mass destructive capability would *not* be employed. Against this estimate, the Army has reshaped its striking forces and equipped them with battlefield rockets and guided missiles. The urgent need of an adequate defense posture capable of dealing with any type of emergency has met a rare degree of unanimity here and abroad.

In sharp contrast, however, wide disagreement has developed over the real significance of the best-publicized exploit of communist engineering—the earth circling satellite whose monotonous signal was intentionally audible to listeners everywhere on earth. Sceptics, who refuse to accept the possible until it has been demonstrated, have clouded the issue. This is a dangerous state of mind in a day when break-throughs occur so rapidly that obsolescence of complex weapons systems has become a primary concern.

Perhaps the launching of EXPLORER helped to redeem our promises, but no amount of explanation or justification can show why we did not do it ahead of the Soviets—and no amount of mutual backslapping that we succeeded with EXPLORER on the first try can hide the fact that we have lost a round. We can not afford to lose much more. It was a grave error in judgment to fail to recognize the tremendous psychological impact of an omnipresent, artificial moon visible to anyone with a good pair of eyes and audible to anyone with a simple radio receiver.

Another grave error was the failure to evaluate realistically the research, development, engineering and production capabilities of a totalitarian state. This lulled us into complacency and led to an underestimate of our adversary—risky business in any competition.

Since I had the dubious privilege of living and working under a totalitarian government for many years, I should be able to discuss this topic with some degree of competence. Anyone who says that science and technology cannot flourish in a police state does himself and his country a great disservice. It is generally recognized, of course, that personal freedom of movement and thought, and a free exchange of ideas, are essential to scientific advance. From this, however, many erroneously conclude that genuine scientific work is impossible in the climate of dictatorship. Let me clear up this notion once and for all, in the interest of arriving at an honest appraisal of our situation by citing my personal experience at the Peenemuende Rocket Center in Hitler's Germany.

Neither I nor any of my associates were ever required to submit a travel itinerary in advance, whether for a short business trip or a vacation lasting several weeks. Throughout the war we had intimate, continuous contact with 36 universities and technical institutions. They performed research in support of our missile programs under contracts so broadly worded that they permitted the institutions an extremely wide latitude in implementation.

Discussions and symposia, quite similar to those conducted in this country were held frequently. Many ideas were generated in this truly liberal academic environment. True, these ideas related exclusively to our technical problems and not to politics, but they are successfully applied even today in rocket and missile activities. As far as personal freedom of movement is concerned, as well as free exchange of ideas in the strictly scientific and technological sphere, it would thus simply be misleading to assume that things were much different than in a free country.

The heavy hand of dictatorship is rather felt in another area. In Peenemuende, the security police kept dossiers on all of us, listing all the things we might have said about the regime or individuals of the upper hierarchy. Personal vices and weaknesses were catalogued in the files. But they left us alone as long as our usefulness, in their opinion, was greater than our debit account. Once they felt they could do without you, and you were in their way, they'd call for the dossier and destroy you. It was that simple.

I realize that this sounds quite awful to men who have never experienced it. But the sober fact is that people, whether scientists or candlemakers, learn to live with such a situation. We don't deny ourselves week-end auto trips in spite of the National Safety Council's warnings about multiple deaths. Just so the man living under dictatorship adjusts himself to business-as-usual, whether he likes it or not, because he must, in order to survive. Something like seven hundred million people are living today under communist rule and, in all probability, they have learned to live in the face of such possible "road accidents."

Consequently, we should disabuse ourselves of the dangerous myth that the impotent Russian scientist bends over his slide rule with a gun pointed at his head. It appears that he enjoys at least as much reward as the American scientist and that, until quite recently he had even greater latitude in his selection of resources and assistance.

We must consider, in this measure of the forces arrayed against us, the overall post war era in such areas as atomic and thermo-nuclear bombs, nuclear power plants, jet aircraft, guided anti-aircraft missiles and long-range rockets.

When we consider their low general technological status as evidenced during the last war, plus the tremendous physical damage inflicted upon the Soviet industry by the war itself, it becomes frighteningly clear that their rate of progress greatly exceeds ours.

The real peril lies in the enormous momentum they have built up, which certainly will yield other dramatic by-products along the way. They have long since embarked upon a dynamic program to achieve supremacy in science and technology. Their state-controlled educational system is turning out competent engineers and scientists in greater numbers than ours. It is upon this broad foundation that the Russian is waging his effort and not upon the gleanings of the brain-picking of some captive, foreign scientists as many people in this country still seem to believe. Clearly we must accelerate our effort at a rate calculated to overtake and surpass the Russian advantage. And this calls for a sacrifice of an unprecedented scale.

It must be understood also that the Soviets have grasped the significance of man's imminent conquest of space and have proceeded well along the road in that direction. A current estimate of the situation would include these possibilities:

First, the Russians probably used a multistage rocket to launch their satellites which was originally designed to carry a thermo-nuclear warhead over intercontinental range.

Second, the same rocket configuration, with minor modifications, can place a payload of between 50 and 100 pounds on the moon.

Third, the rocket can also put up a satellite capable of military reconaissance, equipped with a television playback feature. A few such orbital devices can keep track of the progress of all surface construction projects, ship movements, and air base operations anywhere in the world. Once they achieve this, and I am convinced that it is only very few years off, "open skies" inspection for purposes of disarmament becomes academic.

Fourth, the Russians have a sound program designed to solve the question of safe return from orbital flight and related space medical problems, with the purpose of preparing for manned space travel.

I would recommend that we brace ourselves for other Soviet "firsts" in the new field of astronautics. We are behind and we cannot catch up in a day or two, since major technological projects necessarily involve lead time. It will require several years of concentrated effort to come abreast, and even longer to pull ahead.

We can waste no time commiserating over the sorry lot of the Russian worker or peasant, comparing his lack of freedom and creature comforts with our prosperity. We should also shuck off another illusion, that the Russian people will rise up to overthrow the Kremlin and thus relieve us of all our worries. Perhaps a dream of freedom exists in the Soviet Union.

Perhaps, by exposing more young people to scientific training, a search for truth will eventually react against the dictatorship. But we cannot stand around, hands in pockets, waiting for others to do what can be accomplished only by us. I am convinced that it is man's destiny to enter space and that he who controls the open spaces around us is in a position to control the earth. All the choice left to us is accept the Soviet challenge, or pay the Piper.

I certainly do not suggest that we move into space with any belligerent intentions. It would only be consistent with the fundamentals for which the United States stands, if we would propose to the United Nations the universal acceptance of the principle of the freedom of outer space—in analogy with the principle of the freedom of the seas.

But any such doctrine would be void and meaningless if we cannot back it up with a position of relative strength.

It has been said that Khrushchev and Company launched their eventual downfall by the Sputnik because this country reacted by firing up its missile and space programs.

And indeed, in more than one aspect this may be our last chance. In the first World War, as well as after Pearl Harbor, the United States had time to marshal her resources. Even in Korea and now, after Sputnik, we had time to initiate the necessary counteraction. Next time, in this world of long-range ballistic missiles and thermo-nuclear warheads we may not have time. Either we will be ready at a moment's notice, or historians may conclude over the ruins of our cities that we were "weighed and found wanting."

I hope that we will not conclude that money alone will turn all the tricks—there are other factors involved which cannot be settled so easily. It would be presumptuous for me to offer "school solutions," or even to list all the things which must be considered. But there are some minimum requirements which can be identified and which demand prompt attention.

Our educational offerings must come under scrutiny since it is tomorrow's generation which will have to cope with the problems developing today. If their preparation is to be compatible with the kind of world they will inherit, our young people must be taught basic and essential knowledge at the earliest practicable age—in the elementary schools. We have got to disabuse ourselves of the idea that school is a place solely to teach boys and girls how to live together. They must understand mathematics and the physical sciences, which means more and better teachers and expanded offerings both in scope and number. Better salaries, improved professional status, and more adequate classroom and laboratory facilities are essential to obtain the kind of teachers we need, who can provide the inspirational leadership to interest young minds in facts.

I do not believe the Federal Government will or should attempt to dictate such a program, but it should establish generally recognized educational standards and it should assist in a pump-priming role in the public schools and in our colleges and universities. Education in a democracy is the concern of every citizen. The people must insist upon a redirection of emphasis and willingly accept their just measure of responsibility for execution of our educational programs. To all who ask, "What can I do to help?", my answer is to take active interest in *what* is being taught, *how* it is being taught and by *whom.*

There has been unnecessary concern about possible Federal interference in local schools. The Federal Government as well as the states have been supporting public education in greater or lesser degree for years—all we are talking about is funneling support into more productive channels. If the Federal Government can support highway projects—why not schools?

Finally, we must generate the will to supremacy. Because this is intangible, because it must come from the hearts and minds of our people, it cannot be legislated, budgeted or evoked by decree. We want no Federal propaganda machine exercising dominion over the free press. We want no dictator telling us what to believe and what to do. But we must set about learning the facts and, when we have understood them, buckle down to the challenging tasks which confront us.

We should stop telling the world what we are *against*. We should tell the world what we are *for*. We must not fight the communist ideology with negative statements, but with the lofty ideals of the founders of this great republic. The antidote to communism is not anti-communism, but the belief in God and the dignity of the individual. Let us not deceive ourselves; the communist ideology has a powerful appeal to the have-nots, the uninformed, and the desperate. But ideas are fought not with material means, but with superior ideas. And where should these ideas be found in this world today, if they cannot be found in this glorious Land of the Free? The flag of leadership of the free world has been thrust into the hands of Americans. Let us live up to the historical challenge.

We must think in terms of long-range objectives, not on the time scale of next year's automobile models. We must put our trust in men assigned to carry out these programs, and not interrupt or divert them by frequent reexaminations or demands for justifications. We must supply them with the resources they require, hold them responsible for results, and leave them alone to carry out their missions. We must look for, and demand, competent and honest reporting, the hallmark of American journalism, which is sometimes lost sight of by a small segment of the press bound to carry on propaganda attacks or sales campaigns by self-serving interests.

If we can inspire a national determination to achieve the ultimate victory, all other factors will fall into their proper perspective and places. We will then move forward, a united people, into an age, in which the far reaches of the universe will become as familiar as the next town.

It is disquieting to be asked "But what will all this profit us?" Such questions betray a lack of confidence and, even more serious, the kind of unenlightened approach which has hamstrung our progress in the past. No man can say with assurance, what benefits will accrue from our discoveries. With EXPLORER, we made a modest beginning. We have stepped into a new high road from which there can be no turning back. As we probe further into the area beyond our sensible atmosphere, man will learn more about his environment; he will understand better the order and beauty of creation. He may then come to realize that war, as we know it, will avail him nothing but catastrophe. He may grasp the truth that there is something much bigger than this one little world. Before the majesty of what he will find out there, he must stand in reverential awe. This, then, is the acid test as man moves into the unknown.

Science Education for the Missile Age

STEPS TO IMPROVE QUALITY OF AMERICAN EDUCATION

By DR. GEORGE L. HALLER, *Vice President and General Manager of the General Electric Defense Electronics Division, Syracuse, New York*

Delivered at the Syracuse Rotary Club, Syracuse, New York, March 21, 1958

EIGHTY-FOUR years ago, on the 15th of June, 1874, the British prime minister, Benjamin Disraeli, made a speech in the House of Commons. I would like to quote a single sentence from that speech because what Disraeli said 84 years ago might be taken as a slogan for the people of the United States today. Disraeli said, "Upon the education of the people of this country, the fate of this country depends."

This afternoon I would like to talk to you about education —particularly science education—in this country and how we must use this education to help meet the challenges of the missile age.

Historically, we Americans have been proud of our national ability to rise up in times of crisis, mobilize our manpower, organize our resources, and go out to punish an aggressor. We have believed that one Kentuckian with a squirrel rifle is worth ten of the Kaiser's best. We were proud that in World War I, an American boy with a piece of baling wire could fix the wobbly wing of a warplane. In World War II, when we had trouble with German tanks, our so-called "Yankee ingenuity" produced a rocket-launcher called the Bazooka. It was simple enough so that any decent tinsmith could produce it in his little shop. During the Battle of the Bulge in 1944, General Patton pulled his cooks and bakers out of their kitchens, handed them these Bazookas, gave them five minutes of instruction, and told them to stop the German tanks. And, they did.

In the past, we have sent our farmers, our lawyers, our artists, our mail carriers off to war, confident of the fact that with a little training one man would make just as good a soldier as the next. In time of war, we looked with pride upon our "citizen soldiers." In time of peace, we looked down our noses at our professional military men. We could afford it. Separated by two wide oceans from any potential aggressor, we had the time to build our arms factories and to make soldiers out of civilians.

But this is the missile age. If war comes today, we won't have time to turn our plowshares into swords or our pruning hooks into spears. In today's war, one bomb equals one city. A war could well be decided in a matter of hours. Blueprints for war plants would never get out of the filing cabinets. Draft boards would hardly have time to stick stamps on induction notice letters.

In order to meet the challenge of this missile age, this country needs three important things:

First, we need a well-trained professional army, navy, and air force. The emphasis is on the word "professional." These must be dedicated men who regard their military career as something permanent—not just a disagreeable obligation that must be fulfilled. In order to accomplish this, we must pay them professional salaries and accord them the respect that other professional men enjoy. Today, with our complex modern weapons, it takes a long time and a lot of money to train a soldier. We are losing too many good men and spending too much money in training new recruits because a permanent military career is not attractive enough.

Second, we must conduct our defense production as a business. By this I mean that defense production should be put on a well planned, continuing basis so that firms engaged in defense work will be able to predict their manpower, supply, and factory space needs for a reasonable time into the future. This would eliminate the steep hills and valleys that are encountered by many companies in defense work today. With adequate planning, in time of peace, there should be no need for "crash" programs of defense production. In addition to "business as usual," we should have "defense production as usual."

Defense spending should not be turned on and off like a water faucet. Today's complex weapons systems like a jet bombing plane or a radar network cannot be engineered and produced overnight. They need a long time for the proper research and development that precedes production.

You probably noticed the story in last Sunday's papers announcing the award of a $100 million contract to General Electric in Syracuse for the production of radar equipment. It was not by chance that we received this contract. This award was one result of the research and development we have been doing in the radar field since World War II. Another important factor is the fact that we have a highly skilled and closely integrated team of managers, engineers and production employees. These men are thoroughly capable of designing and producing this complex radar equipment which is so important to our national defense.

Let me make one more point concerning defense contracts. The current profit incentives for military work are a fraction of what they would be for comparable civilian work. Contrary to general public opinion, American firms are not getting rich on defense contracts. Once a defense contract is completed, it is often renegotiated, which frequently cuts the small profit even more.

The third thing this country needs to meet the challenge of the missile age is a systematic reappraisal of our present educational system. This is a matter I would like to expand upon this afternoon.

At this point perhaps it would be a good idea to see what the so-called "competition" is doing in the educational field. I hope you are all familiar with the recent report on Russian education issued by the United States Office of Education. It is a document that should be read and digested by every American.

Let me cite some of the salient points of this report. It states that the Soviet Union is far outstripping the United States in its emphasis on technical and scientific education. The Russians are making almost frantic efforts to gain over-all supremacy in the entire educational field.

As a result of this effort, the sciences now get 53 per cent of the students' time, whereas the humanities and social studies get 47 per cent. Currently, 70 per cent of the advanced degrees conferred by Soviet higher educational institutions are in scientific and technological fields.

The Soviet school child gets a much heavier program than his American counterpart. He goes to school six days a week, has a rigid course of studies and is under constant pressure to excel. Instead of the leisurely pace of American schools, there is a continuous drive for top performance.

More attention is paid to the gifted child. He is singled out at an early age and given special instruction. School teachers

and college professors are among the elite of Soviet society. They are encouraged to improve their professional status by attending conferences, reading academic journals and continuing with their studies. There is no shortage of teachers in the Soviet Union.

Of course, there is another side of the Russian educational picture. Dominated by the Communist party, the Soviet school system is rigid and inflexible. The party determines the number of persons needed in any field; the government fixes quotas for enrollments and assigns graduates to jobs in industry.

As to the results of this program, the report states that the Soviet high school graduate, at the end of 10 years, is better educated in academic subjects than the American graduate after 12 years. Secondary school graduates in Russia have taken courses in physics and biology for five years, chemistry for four years, astronomy for one year and mathematics for 10 years.

Some educators seem to feel that this rigid educational program could not be instituted in the United States because it is too strict and too demanding of the student. It should be noted that similar programs have been in use in other European countries such as England, France and Germany for several years. If these European children can do it, why can't our own children?

I would like to make just one more point on the Russian educational system. It is what Felix Morley calls the paradox in Russian education. Mr. Morley asks, "How is it that the communists, who decry competition, emphasize it so strongly in their schools while we, claiming to believe in free enterprise, have gone so far to eliminate the competitive spirit in the classrooms?"

I personally believe that the competitive spirit which we try to develop on our athletic fields and which is the foundation of the American business system should be encouraged in the classroom as well. Even in England, the land of socialized medicine and nationalized railroads, no attempt is made to eliminate competition in the schools. The English make no pretense of giving every student a college diploma. Those who cannot meet the high standards set for college entrance are weeded out at an early age and take a different type of program from the age of 11 onward. The less able students continue their education but the emphasis is on vocational subjects with as many intellectual subjects as it is felt the students can handle. There is no such thing as automatic promotion or diplomas granted for so many years of school attendance as we find some places in the United States.

Now let us examine some steps we can take to improve the quality of American education.

First, I think we should explore and adopt various methods of increasing the productivity of our educational system. By this, I mean we should find ways to give more and better education to more students without a direct corresponding increase in the size of our teaching force or our school budgets. Does this sound impossible? Let's take a look.

The first thing that comes to mind is increased use of educational television. By use of this modern teaching tool, one teacher can reach into hundreds of classrooms at the same time. Residents of the most remote hamlets can take advantage of the very best teachers in the entire state. This is now being done in the state of Alabama where they have an educational television network that covers 90 per cent of the schools in the state. It is particularly useful for the teaching of science courses because it means that every school can take advantage of extensive laboratory facilities established at a central broadcasting point. And every student has a front seat for watching demonstrations.

Educational television is not replacing the teacher in the classroom with a television set. It is not a substitute for textbooks or homework. But it is a teaching tool that permits enrichment of existing courses and makes it possible to offer courses not now possible in smaller schools. Furthermore, the use of the very best teachers provides a motivation for students to continue their education.

I think we should look into academic television as a substitute for the construction of large, expensive central schools. Instead of spending large sums of money on fleets of school buses, garages, drivers and maintenance, why not invest in a microwave relay system and a few television receivers and bring the best science, music, art and mathematics teachers into the classroom through the air waves?

Educational television is no longer in the experimental stage. It has proved its intrinsic worth at all levels of education in schools and colleges all over the country. I was particularly pleased to note that Dr. Paul Miller, our own superintendent of schools, has expressed an interest in educational television. I hope that the young people of Syracuse and Onandaga county will soon be able to take advantage of this new medium. Strangely enough, much of the opposition to educational television has come from educators themselves. But for those who have studied it, TV or not TV is no longer a question.

A second way of expediting our educational productivity might be the increased use of modern business machines in our schools. Machines could go far to expedite the tedious chores of keeping attendance and other records and correcting examinations. Mathematics departments should have small computers for use by students as well as teachers. Once the basic principles of mathematics have been learned, students should have access to computation equipment for problem solving, just as is done in business and industry today. This would eliminate much of the laborious hand calculation that makes many math courses so uninteresting.

If these suggestions for increasing the productivity of education were adopted, several benefits would result. First, a large step would have been taken to overcome the present shortage of teachers. Second, it would seem to follow that as the teachers' efficiency increases, there should be funds available from this greater productivity to increase teachers' salaries. A third benefit would be, of course, increased numbers of the technically trained persons that business and industry need today.

A second step we should take to increase the quality of our education is to stop the trend by which "soft" courses tend to push out the solid basic courses such as mathematics and science. In recent years, many so-called "progressive" educators have instituted a whole series of social activities which they call "group awareness" or "life adjustment" courses. These are fine—except when they detract from the more necessary fundamental subjects.

Some time ago, President A. Whitney Griswold of Yale University cited the case of a high school graduate who wanted to enter Yale. In his junior year, this student had studied the following courses: English III, American history, typing, speech, chorus and physical education. As a senior, he had taken English IV, journalism, speech, personality problems, marriage and family, and chorus. Needless to say, he was not admitted to Yale.

A third step we must take is to pay more attention to our particularly gifted students. We must find them earlier and provide the proper motivation for the advanced work of which they are capable. How many Edisons or Einsteins have we already lost because they were allowed to lose interest in school? We already have fine programs for our retarded

students. I think we should certainly do as much and more for our talented students.

This can be done by more testing. As Prof. Arthur Bestor of the University of Illinois has pointed out, and I quote, "European countries depend on thorough examinations of what students know and can do. These examinations come at each crucial stage in a student's advancement, and his promotion to a higher level of education depends on how well he does. This is the secret of how European countries have been able to maintain standards while moving toward mass education. We undertook mass education, but threw away the one essential safeguard of quality. Hence our present plight." (End of quote.)

A fourth step we should take is to increase the prestige of the best math and science students. We must make them the social equals of the football and basketball stars. This is being done to some extent by the establishment of science fairs and mathematics competitions but we still have a long way to go. If my high school jargon is correct, math students are still regarded as "creeps" or "squares." We must make it clear that good grades in science and math will be much more useful in later life than mere prowess on the gridiron.

A fifth step we should take is to raise our educational standards. Too many lazy, mediocre students get by, hamper the work of others, and waste valuable teaching time because our standards are not high enough. Perhaps we should also explore the possibility of giving more credit for the so-called "hard" courses such as mathematics and science. In this way, a student would risk more but he would also gain more. This would be excellent training for the calculated business and personal risks he must take in later life. Of course we must not lose sight of the fact that, while emphasizing science, we must not neglect such other basic courses as English, foreign languages and history. While on the faculty of Pennsylvania State University, I frequently encountered students who were doing fine work in physics or chemistry but their shortcomings in English made it difficult to communicate what they had learned in the sciences. This is a situation that must be avoided at all cost.

A sixth step we must take is to increase the discipline in our schools, particularly our elementary and secondary schools. If we lay a proper foundation of good discipline at an early age, there will be no problems in later years. We have had a graphic example of a breakdown in discipline in New York city schools. This situation is incomprehensible to European educators because their teachers are respected by students and community alike.

Of course our parents have a basic responsibility in establishing discipline. Good work habits and proper respect for authority should be carried from the home to the school, not *vice versa.* A proper attitude toward school work and school discipline established by parents will do much to encourage students to continue their education and strive for good grades.

A seventh step we should take is to begin motivating students toward mathematics and science right down at the elementary school level. If a student waits until he has completed three or four years of high school before he decides on a career in science or engineering, it is probably too late.

I do not pretend that the course of action I have outlined is a foolproof panacea for the ills that beset American education in this missile age. But I do think it provides a framework for progress toward the ultimate objective of the economic prosperity and national security that we all seek.

Some people seem to think that there is nothing wrong with American education that can't be cured by massive injections of dollar bills. I do not agree with this approach although I will be interested in the results of an experiment that may be tried in Winnetka, Illinois. There the voters are expected to approve in April a plan to raise elementary school teacher salaries to $12,000 a year, plus broad fringe benefits.

In closing, I would like just to caution that complacency is perhaps our worst enemy. I think the launching of the first Russian satellite was just the tonic the American public needed. Indeed, that launching may prove to be a major Russian military and political blunder because it awoke the United States to the fact that we no longer had a monopoly on scientific progress. I hope only that our own successful launching of the Explorer and the Vanguard will not lull us into a false sense of security again.

There is still much hard work to be done as we encounter the many challenges of the missile age. And much of the responsibility for our future success or failure rests with our educators. The destiny of the United States is largely in their hands—to shatter or to shape.

"Bending the Twig"

PRIMARY PURPOSE OF ANY SCHOOL IS EDUCATION, NOT SOCIAL ADJUSTMENT

By DR. GRAYSON KIRK, *President of Columbia University, New York City*

Delivered at Smith College Rally Day, Northampton, Massachusetts, February 22, 1958

WHEN PRESIDENT WRIGHT invited me to speak to you on this occasion, he said merely that this was your annual Rally Day and that I might select any subject I wished to talk about. Such latitude offers a dangerous temptation to any college or university president. If he talks about the subject that is likely to be uppermost on his mind, his audience will have an inspiring half-hour's discussion of salaries and budgets and labor union negotiation —all the things that make a president into a true educational philosopher. This, however, I shall spare you because there may be several future presidents of women's colleges in the audience and I would not want to frighten any girl away from keeping her rendezvous with her destiny.

I confess that I have been puzzled about the meaning of Rally Day. Webster says that to rally is "to collect and to reduce to order." Could it be that President Wright must have some special day when he can collect all his students and reduce them to some semblance of order? If so, then this is a matter into which a guest and a visitor should not inquire. As a fellow president I believe firmly that academic skeletons should be kept only in two places—biology laboratories and closets. I have also found, however, that the ones in closets develop an incurable claustrophobia. Even so, let me not be the one to unlock any closet doors or to ask any more questions about the inner significance of Rally Day. It is pleasant to be here and I will now try to collect my thoughts and reduce them to some order.

The last few months have produced a ferment about

American education the like of which no man now living has ever witnessed. Educators are no longer obliged to talk to each other; they can now talk to the public without creating a stampede for the nearest exit. Many newspapers formerly gave educational happenings the same careful attention they gave to an epidemic in the Upper Congo. These same papers may now have a special Education Editor with a daily column. Curricular changes appear not only in college catalogues but in bold face headlines. The air waves and television screens are filled with newly hatched experts who diagnose our educational ills and prescribe a cure.

From a complacent assumption that in education, as in all other things, we have the best in the world, our people now seem worried lest we may have the worst. Meanwhile, as the arguments go on, the fundamentalists do battle with the "educationists". The scientists bask in the reflected glory of a technologically oriented era, and the humanists wander in the wasteland and wonder if they have reached the end of another inter-glacial period. The public, desperately hoping that the world will not end either with a bang or with a whimper, surveys the confusion with growing alarm. Clearly, one should never underestimate the power of a dog.

In the spirit of Rally Day let us try to reduce some of this confusion to order. As the King in *Alice in Wonderland* said: "Begin at the beginning." So, since many of you soon will preside over homes of your own, let us begin with the home and admit that our educational troubles stem from the American home just about as much as from the American school.

It is my judgment that too many of our fathers and mothers have abandoned too much of their responsibility to the school. These parents seem to feel that if they feed and clothe the child and provide him with a television set, the school should do everything else. The school is supposed to teach good manners, moral character and patriotism along with history, mathematics, science and all the other subjects that make up the stuff of education. All this is true. The school cannot overlook its duties in these matters, but it can be successful only if the parents realize that the home, when properly organized, is a far more potent educational unit than any school. The moral irresponsibility of many parents toward the education of their children is one of the truly terrifying developments of our time.

Since water rises no higher than its source, let us admit that too many American homes are as bare, intellectually and culturally, as Mother Hubbard's cupboard. If you say indignantly that this was not true of your homes when you were children, I am sure you are right. Otherwise, you would not now be here at Smith. But what I am concerned about is the great majority of homes whose daughters do not go to Smith —or Barnard.

A generation ago those homes had at least a few well-selected books and the children read them and re-read them. Today, too many of these homes rely for cultural sustenance upon the mass-media of radio, television, picture magazines, and the like. Do not misunderstand me, I have no quarrel with any of these newer means of communication and information. Their importance is undeniable. But in the home they should supplement and not replace good literature. And the indications are that in too many homes these mass-media instrumentalities are the cultural *pièce de résistance* and not the *hors d'oeuvres*. England has less than one-third of our population, and yet there are approximately three times as many book shops there as in our country. These figures speak for themselves. What they say is that American parents are not developing good reading habits in their children because the parents themselves are lacking in them.

We cannot disregard this criticism merely by replying that the current volume of production in books and periodicals is enormous. We have experienced in recent years an alarming increase in what could euphemistically be called trash, readily available at every corner drug store and newsstand. Partially because of it, our standards of taste have become cheapened. Serious periodicals containing essays, interpretation and opinion have dwindled almost to the vanishing point. They have been replaced by scores of other publications which, if accurately titled, would be called an "Introductory Guide to Juvenile Delinquency."

A part of our difficulty stems from the false assumption that genuine effort need not be required for the nourishment and development of a healthy, capable mind. We are so determined to make living easy, so determined to make the learning process painless, that we believe we have done all that is necessary when we reach for the terse summary of the news, the predigested article, the glossy photographs, and the channel selector of our television sets. Our fare must be encapsuled and sugarcoated. We admit that the body without adequate exercise becomes soft and flabby. We do not admit that our minds are subject to the same principle.

Please do not draw the false conclusion that these critical comments about so many American homes are in fact a plea for austerity or the renunciation of the pleasures of life. I have long remembered with approval Talleyrand's reproof to a friend who refused to learn to play any card games. He said, *"Quelle triste vieillesse vous vous préparez."* The important point is to remember that there are very few more enduring pleasures than the possession of a well-furnished, well-exercised mind with a built-in intellectual curiosity that is insatiable.

One further *caveat* ought to be mentioned. In making these comments I am fully aware of those respects in which our homes have improved environmentally for our children. Interior decoration is better than it was a generation ago. Thanks to the long-playing record, the availability of good music has increased enormously. Standards of health and sanitation have improved dramatically. But, withal, we run the danger of selling our children's literary and intellectual birthright, not for a mess of pottage but for garbage. In your homes and with your children, please remember that it is not anti-democratic to have standards of good taste.

As our schools would benefit if their pupils had a better home environment, so our parents ought to have available better schools for their children. In order to have better schools, we must start from one simple proposition: The primary purpose of any school is education, not social adjustment; the student becomes educated by hard work, not by entertainment.

A generation ago this statement would have been regarded as trite because it was so self-evident. Today, a substantial, perhaps a predominant, segment of our public school teachers and administrators seem to be opposed to both parts of it. Recently, I read a review of a new book on American education. It was written by an English educator and the review appeared in an English journal. The English reviewer commented that "... it is hardly possible to compare the American educational system with that of Britain, since the aims are wholly different. In America, the intention is not, primarily, to provide the child with any part of the common currency of human knowledge, but rather to enable him to have a series of experiences which will help him to grow into an integrated human being and a good American."

I find this comment profoundly depressing because it suggests that our schools have deliberately adopted social rather

than intellectual goals. It intimates that American education uses as its credo that offensive precept of the poet who said, "Be good, sweet child, and let who will be clever." I hope you would share my concern over a world in which our children would merely be good while others were clever.

Actually, if one may judge by the furor over juvenile delinquency, our children are not even being taught to be good. And if we judge them by European children of the same age groups, we know that ours lag far behind in meaningful intellectual development. The reasons for our unsatisfactory performance are not hard to discover. I have already suggested that one explanation is to be found in the wrong goals that have been set by educators for our schools. Another is the unwillingness to separate the brighter students from those of more modest capacity and to push the former group ahead at a rate that will give them challenge and excitement rather than boredom. Still another fault is in the excessive freedom given to children to choose their own studies.

Let me illustrate this last point. Recently, an irate father told me that he had asked his grade school daughter what she had done at school that day. She replied, "Oh, I wanted to study arithmetic but the other members in the class all voted to spend the day painting with their water colors." A mother of a girl applying for admission to college told me that her daughter was having difficulty because in high school she had been permitted to study one year of Latin, one year of French and one year of Spanish. This is not education; it is organized chaos. Incidentally, this lack of guidance both from the home and the school is one principal reason why so many young people come to college without any proper grounding in mathematics and science. They have been permitted to avoid the hard subjects. When they come to college it is too late for them to begin. And yet the American people wonder why we have an inadequate supply of scientists and engineers.

I am convinced that our children could do far more than our schools now ask of them. I am convinced that our parents ought to insist that the schools take this responsibility more seriously. Equally, I am convinced that too many of our parents labor under the delusion that education ought to be painless, and that children ought not to be over-burdened with study to the point that it interferes with their pleasures.

It is encouraging to be able to report that this "soft" attitude toward education is being discarded by more and more of our young parents today. They are genuinely concerned about the schools because they know that in the world of today and tomorrow a child's success in life is desperately dependent upon proper education.

A few weeks ago I talked about some of these matters in a press conference in San Francisco. The report of my comments brought me many letters. One man wrote indignantly, "Look here, I work eight hours a day. I haven't time after that to worry about my children's education. That is the job of the schools; it is not my job." In contrast, a young mother from a small California town wrote me a long, worried letter in which she said,

> "As parents we are disturbed too. Upon investigation we have found that the curriculum of our schools is so inadequate that it has been easy to channel the interests of our pre-school children into subjects they will never learn from the schools themselves. Hence, at less than five years, our son has more than a chance acquaintanceship with interests that range from whales to volcanos, from the Oz books to the Greek myths. And still we must ask ourselves what will happen to this enthusiasm when he sees the books from which he will be taught to read? His comprehension and vocabulary . . . are clearly marked for nine to fourteen year olds."

May I quote from one more letter? This one is also from California and it is from a woman who is an experienced teacher in elementary schools and also the mother of elementary school children. She writes:

> "It is inconceivable to me that any educator does not connect in some way the tremendous rise in juvenile delinquency, the hundreds of good students who quit high school early, the increase in early marriages and divorces, and the growing number of mentally ill with the very foundation of our educational system—the elementary school . . . Ten years ago when I was graduated from college I was concerned by much of the 'progressive' philosophy. I had come from a family where hard work, high ideals, strict morals and scholastic achievement have always been praised. In spite of being young, fun-loving and eager to please as a probationary teacher, I tempered the 'progressive' methods we had been taught wherever possible. My most satisfying experience was in a more formal system where the children were proud of their self-discipline and scholastic achievement . . . It is no wonder to me that many of our youth are confused, bored, and insecure when I see the freedom allowed immature minds in the elementary classrooms. That is the very time when we should doggedly teach them respect for their teachers and parents, spiritual values, excellent work habits, and the essential tools of learning. They will have plenty of time to 'learn by doing' after the foundation has been laid."

I do not wish to press the point of your own prospective responsibilities in matters of this kind. I make only the observation that our country will be in serious trouble unless the public school system a generation hence is far better than it is today.

Today we note the birthday of our first President. We think of him as a statesman and a military leader. Brilliant as his achievements were in these fields, he was also deeply concerned about improvements in education as the indispensable basis for the future welfare of his infant country. Though his concern applied, as does ours today, to all levels from the elementary school on, he was particularly impressed with the need to crown the school system with the establishment of a university.

This passion did not lead him to abandon his customary good sense and caution. When Francois D'Ivernois proposed to Jefferson that the professors of the College of Geneva could easily be induced to come over in a body and found a new university, Washington, to whom the project had been referred, immediately rejected it. I am not sure that I ought to report his reasons, least of all to an academic community. He said that the professors "might not all be good characters."

When Hamilton drafted the Farewell Address, Washington wrote to him later that they ought to have placed greater stress on education in it. He added that he thought a university would be of the highest importance because it is in "the juvenal period of life, when friendships are formed, and habits established that will stick by one; the youth . . . from different parts of the United States would be assembled together, and would by degrees discover that there was not that cause for those jealousies and prejudices which one part of the Union had imbibed against another part . . ."

Today, we *have* our colleges and our universities. They perform this function of bringing beneficially together, not only the young people from this country, but from the countries of the world. To provide a firmer foundation for this

useful activity, our institutions of higher learning must now undertake to be more active than ever before with respect to our secondary and elementary schools. Our graduates as parents and citizens must not reject the leadership that ought to be theirs by virtue of the advantages that have been made available to them. At a time of genuine crisis in the history of free peoples, we must not forget that our competitors are tough, intelligent and dedicated. We can be no less.

Are We Handcuffing Law Enforcement?

RECENT CONFUSING AND CONFLICTING LEGAL INTERPRETATIONS

By EDWARD S. PIGGINS, *Commissioner of Police, Detroit, Michigan*

Delivered before Kiwanis Club No. 1, Detroit, Michigan, January 14, 1958

AMERICANS are a complacent people. We have a tendency to take too much for granted. I earnestly pray that the day will never come when; because of our complacency, because of that seeming self-satisfaction which too often lulls us into a false sense of security, because of a blinding sense of certainty; we will find ourselves without those protections which Americans must have if Americans are to live and survive as Americans.

One of the most vivid and forceful examples of what I am saying to you manifests itself in the attitude we have developed through the years toward that vital institution which we call American law enforcement. Since the birth of this country we have enjoyed the protection of the American police officer as we know him. We have grown to accept and to expect that protection, without being conscious of it, simply because we have always had it and expect always to have it. The right to live our lives in peacefulness; secure in our persons and our property, secure in our homes, and in our cherished institutions; has been ours because of clean, capable and effective law enforcement, in the American tradition. The infrequent, isolated exceptions serve only to emphasize the truth of this statemeent.

For 182 years, we, as Americans, have enjoyed this protection. Have we ever stopped to realize what kind of civil climate we would have were we without adequate police protection? Could we enjoy our churches, our schools, our public highways, our cultural and our recreational activities? Could we pursue our daily endeavors with the same degree of safety and freedom from lawless interference, were we not constantly defended by a competent police force? Could we meet here today and express ourselves as we wish if we were not guaranteed the protection and the preservation of our basic rights and the privileges and freedoms which we so jealously cherish as Americans, by a vigilant law enforcement agency?

This country has one stark example of a city without law enforcement. During the term of office of the late Calvin Coolidge as Governor of Massachusetts, the Police Department of the City of Boston struck over economic differences. That situation would not likely happen today because the law prohibits it, but it nevertheless presents a vivid example of what can happen without the protection of the police.

When law enforcement took a holiday in Boston, crime went to work with all of its evil, destructive, insidious aggressiveness. Murder, vandalism, robbery and rape rose to such heights that it was necessary to call in the State Militia. Schools were forced to close. Decent people stayed off the streets. Merchants closed their shops. Civilization went behind closed doors—and fear took over.

It doesn't necessarily take an economic controversy or a strike to cause the same disastrous results. Restricting the required, reasonable legal power of the police; eliminating the authority of the police legally to detain witnesses for a reasonable length of time for questioning; curtailing reasonable and warranted investigative authority; could well bring about a similar deplorable condition and work infinite harm to the welfare and safety of the American people.

In the past few months, events which as yet are not universally recognized by the average American citizen who wants and is entitled to clean, decent police protection, have taken place—events which are giving sincere and dedicated police officials serious concern.

A. A twenty year old man who admitted raping a woman twice went scot free. He was convicted of the crime in the lower courts, but the United States Supreme Court ruled that his confession could not be used against him because he hadn't been charged formally with the offense soon enough after his arrest. In this case, after having been identified by witnesses, he was held and interrogated by the police from 2:30 P.M., the time of his original arrest, until 12:30 A.M., a total of ten hours only; during which time he confessed, repeated his confession, and dictated his confession to a typist. He was arraigned in court the following morning as soon as court opened—and nineteen hours elapsed between the time of his original arrest and his initial court appearance. The Supreme Court ruled that this was an unreasonable length of time, which ruling resulted in a confessed rapist gaining his freedom.

B. Another youth successfully avoided a three to ten year sentence for housebreaking, under a new and widely disputed interpretation of what insanity means. He was characterized as having a psychopathic personality, mentally incapable of committing the criminal offense of breaking and entering.

C. A man was arrested repeatedly in connection with assaults on young girls in Washington, D. C. He was committed to an asylum, kept there for a comparatively short time, and later released. Later, in West Virginia, this same man was charged with murdering the family of a young girl by putting poison in the family well.

D. Recently, the Supreme Court of California, despite convincing and convicting evidence, under what is called the exclusionary evidence rule, freed a gambler because the prosecution presented evidence which the court ruled had been illegally obtained.

E. Courts in all parts of the country differ from time to time on the authority of the police to obtain a warrant or to effect an arrest on what is "probable cause".

F. Time and time again, the employment of the defense of illegal search and seizure has proven a far greater boon to the protection of the guilty than of the innocent.

Only a few days ago, a police officer was brutally murdered during a hold-up of an east side bar in our own city. Within forty-eight hours; after a round-the-clock, tireless, never-ceasing effort; the Department solved one of the most vicious

crimes in its history. Where would we have been had we not had the reasonable power of investigation—or the reasonable power to detain and question witnesses? I'll tell you where we could have been. The murder would still be unsolved, and three vicious criminals would still be roaming our streets, waiting for other innocent, unsuspecting victims.

In the January, 1958, F.B.I. *Law Enforcement Bulletin,* Mr. J. Edgar Hoover is quoted as saying: "The same lack of vision and misdirected effort which have enabled crime and subversion to become such critical challenges to our free people again manifest themselves in still another garb. I refer to the mounting success of criminal and subversive elements in employing loopholes, technicalities and delays in the law, to defeat the interests of justice. Consider, for example, the vicious hoodlums who have been unleashed despite the weight of the evidence against them, merely because of procedural errors, not affecting the substance of the charges."

Recently, a distinguished judge found cause to warn the American public of what he considers "An unfortunate trend of judicial decisions . . . which strain and stretch to give the guilty not the same, but vastly more protection than the law-abiding citizen". It was the late Justice Cardozo who stated, "but justice, though due to the accused, is due to the accuser also. The concept of fairness must not be strained till it is narrowed to a filament. We are to keep the balance true".

As an American, steeped in the basic glorious traditions of this country; as a lawyer; I am militant in my determination to preserve my constitutional rights and immunities and the constitutional rights and immunities of my fellow citizens. I do not for one instant condone any invasion of those rights—the privacy of my person, the privacy and sanctity of my home, my freedom from persecution, my freedom from arrest on baseless, unfounded suspicion, my right to speak freely, and my right to worship God as I believe and as I see fit—but I recognize also, as an American and as a lawyer, that the sacred constitutional rights of Americans were designed primarily for the safety and protection of the decent American citizen. They were not created as a technical defense to enable the hoodlum or the criminal to invade the rights of others.

In the light of what seems to be a trend toward shackling legal and effective law enforcement, are we, under the guise of constitutional immunity, creating loopholes through which guilty criminals can leap to undeserved freedom at the expense of a violated citizen? Are we shielding the criminal at the risk of endangering the safety and well-being of the innocent? Are we reaching the point where we are permitting those who commit crimes to go scot free through confusing and conflicting legal interpretations which we neglect to correct by legislation—while the life and the property and the security of the morally good citizen, for whom these constitutional protections and immunities were fundamentally and originally created, are being jeopardized?

No self-respecting, dedicated law enforcement official regards himself as a prosecutor. He is sworn to protect and to defend, and not to invade the rights of the citizens whom he serves. There are some people in our midst, however, who would have us believe otherwise and who would unfairly and unjustifiably point to infrequent, isolated, rare mistakes as a universal practice. Clean, capable, dedicated law enforcement, responsible directly to the people who create it, is one of the greatest bulwarks today against those who would undermine our American way of life. When we reach the stage where that type of sincere, dedicated and efficient law enforcement becomes hamstrung and bogs down because of a maze of inconsistent, confusing, illogical legal technicalities which inure unquestionably to the benefit of the criminal and to the detriment of the American public—it is time that good men, who value our American freedoms, rights and privileges, rise up in protest. It is time that the attention of every thoughtful American be directed toward carrying out society's mandate to protect the innocent and, at the same time, employ whatever effective means are necessary toward the imperative necessity of convicting the guilty.

I speak frankly and honestly to you when I say that many law enforcement officials today are concerned—not so much for their sake as for yours. Let us not handcuff law enforcement. Let us not mollycoddle the criminal. Historically, it is the common fate of the indifferent, of the indolent—to see their rights become a prey to the active, to see them chipped away and ultimately vanish.

The condition upon which God gave freedom to man is eternal vigilance. This is a small enough price to pay for our liberty. As a police official and as a lawyer, I commend these questions to you, my fellow Americans, for your sober, careful thinking.

The Intellectual Hunger of Asia

HOW OUR HELP CAN BE MADE EFFECTIVE

By PAUL K. T. SIH, *Director, Institute of Far Eastern Studies, Seton Hall University, Newark, New Jersey*

Delivered to the National Council of Catholic Women, Institute on Hungers of Mankind, New York, New York, March 15, 1958

WHEN WE TRAVEL throughout the Eastern and Western worlds, we note that there exists a striking contrast between these two hemispheres. The West, more specifically Western Europe, is new in its physical and material development, but is old and somewhat tired in its intellectual and spiritual life. The East, more specifically East Asia, is conservative in tradition and actual life, but is young, ambitious, full of ideals and ready for spiritual adventure.

This is so because most of the nations in Asia have emerged from Western colonial rule and have become independent only in the last few years. They have now reached the age of adolescence. Adolescents are at once realistic and idealistic. They are full of new aspirations. These are the flowers of youth. We should see that these innocent hopes are not blown off by wintry winds.

Undoubtedly Asia hopes for, and needs many things. Asia needs bread. It is horrible to think that there are so many millions of men on this part of the earth who cannot satisfy their hunger. But what Asia experiences above all is the intellectual hunger for a fuller human life.

This intellectual hunger of Asia cannot be satisfied from Asian resources alone. Asian peoples resent Western rule, yet they welcome, imitate, and even worship Western things. The average man in Asia knows more about Shakespeare,

Dante, Milton, Whitman, Emerson, George Washington, Lincoln than the average Westerner knows of the famous philosophers and thinkers of the Orient. No constructive revolution in Asia can be accomplished on a "do-it-yourself" basis. International forces play a major role in the real solution for the problems in Asia. The answer must come from without.

European nations cannot meet this situation. Their colonial records alone are sufficient to dishearten the peoples there. The United States and Soviet Russia are now the determining influences in Asia. Both are in a position to help the Asian peoples. However, these two great nations offer different food. Soviet Russia offers food which seems attractive, but it contains deadly poison. The United States offers food which is substantially good, but it has not yet been adequately presented.

The peoples in Asia must make a choice between the Christian Humanism with the United States as the leader, and the Communist Materialism with Soviet Russia as its leader. However, the determination of this choice rests not entirely with the Asian peoples themselves. It is up to us to make our program intelligible and acceptable to the Asian world. For good or for evil, the United States and Soviet Russia face the same challenge and have the same opportunity.

As a matter of fact, there are already several countries in Asia where American aid missions are working side by side with their Soviet "colleagues". Competition is at arm's length. The achievements made by these foreign missions in Asia are often expressed in economic and technical terms. Nevertheless, final success in winning the minds and hearts of the recipient nations will be determined by intellectual and spiritual factors. If we have any doubt about the ultimate validity of the spiritual in determining the fate of Asia, we need only refer to the tragic case of China. That tragedy has a long history behind it. It did not come about suddenly.

China established the first Republic in 1911. With the overthrow of the Ancient Regime, a great intellectual revolution set in. Modernization on the Western pattern was the order of the day. To be Western was to be civilized and to survive; to be Chinese was to be backward and to perish. This brought on a total moral and intellectual disintegration. The old philosophy of life was no longer a living force. The new scientific education was too superficial. No new philosophy of life had really taken root in the mind and soul of the young generation. New China was looking forward, with acute hunger, to a better and sounder philosophy that would make it possible for her to stand by the side of modern countries like the United States that live in freedom and in independence. However, no constructive philosophy from the Western world was forthcoming. Instead, the Russian Revolution became the new source of inspiration. The Chinese Communist Party, with great religious and spiritual fervor, was organized under Moscow's guidance. The names and doctrines of Marx and Lenin came into great vogue. Even at that time Communism demonstrated a remarkable capacity both for initiative, for quick action, and for sustained effort which the Christian West still lacks today!

Dr. Sun Yat-sen, leader of the 1911 Revolution in China, had a balanced mind. He advocated modernization, but he laid emphasis on both Chinese and Western spiritual traditions. He believed in progress, but he did not ignore historical and cultural continuities. The unfortunate thing is that his wisdom and spirit were not sufficiently recognized by the Christian West. Only Russia extended sympathy and friendship. The Communist threat was already obvious, but Dr. Sun needed a breathing space. Thus he sought a political compromise with Soviet Russia in 1923. This opened the way for Communist expansion in every direction. When Generalissimo Chiang Kai-shek succeeded Dr. Sun as leader of the new China, he could not overcome the Communist menace except through military measures. The civil war begun then continues to this day, more than thirty years later.

It is with a sorrowful heart that we note that the Chinese Revolution was inspired by Western ideals of democracy, freedom and human rights. Yet today the entire population on the mainland is living under a condition where democracy, freedom and human rights are completely suppressed!

China is Asia in miniature. What happened to China can happen to any nation in Asia. With mainland China now ruled by the Communists, the Red threat to Asia as a whole is all the more serious. Communist China, appearing as a powerful, independent and free nation, offers false hopes and promises to the youth of Asia.

China sought from the West a fuller intellectual life, and failed to find it. Asia today seeks also from us such assistance. It is the same need and the same challenge. It is the same test of our spiritual resources. The ancient heritage of the East must be united with the spiritual tradition of the West in a universal Christian Humanism. This certainly can be done.

There can be no doubt that the nations of free Asia desire to hold themselves free of Communist control. In fact, they are coming to us for closer union and friendship. SEATO, the Bagdad Pact, and all the multilateral and bilateral treaties explain this. More important, however, is the fact that already several great nations in Asia, such as Free China, Korea, Vietnam, and the Philippines, are under Christian intellectual and spiritual leadership. Christian influence has never been so great. We cannot satisfy the peoples there by telling them that "Confucius is as good as Christ" or "Your religion is as perfect as ours." When China hoped for a fish about half a century ago, she was given a serpent. Now Asia is expecting a loaf, she should not, and must not, be given a stone!

But what can we do, and how can our help be made effective? Here are a few suggestions:

1. We must promote our Christian cause through the various existing agencies of the United Nations, and particularly through UNESCO. We realize the fundamental weakness of this international body. Yet it has the potential of doing much good for humanity in the intellectual order. Soviet Russia has spoken and worked effectively through this world organization. Its effectiveness will be increased if it is not met by us with more vigorous effort. We can make such effort either by direct participation in the various programs undertaken by the United Nations or by active support of our organizations associated with the United Nations. We must take a constructive attitude toward these agencies because they function on a world-wide scale. We have no alternative. We dare not surrender the United Nations and its subsidiary organs to Communist control. Already an infinite amount of damage has been done because we had neither the technical ability nor the willingness to take the leadership in these world-wide efforts. But now we must develop our capacity to meet this challenge and must be willing to function within these agencies. The Communists are taking over where we fail.

2. We must support the missionary cause in the broader sense. The peoples of Asia hunger for intellectual and spiritual food which only the missionaries can provide. In previous times the missionaries had to seek out the people. Now the people of Asia in many places are seeking the missionary. They recognize that he bears an

illumination of mind and a peace of soul which can be found nowhere else.

The multitude of Asian peoples is so great that the priests cannot do all that needs to be done. A great number of lay-assistants are needed, such as those now being trained by the Association for International Development (AID) in Paterson and by the Lay Mission-Helpers in Los Angeles. These lay workers should be trained in such a way that they can establish a basic human contact with the Asian peoples. This demands some understanding of Asian life and its intellectual needs.

3. We must give more attention to training Asian leaders in all phases of native public life, especially in the intellectual life. To satisfy the intellectual hunger of Asia, a great number of Asian Catholic intellectuals are needed.

In the 1920's John Dewey and Bertrand Russell went to China and lectured there for a short period. Yet the hunger of the young intellectuals was so great that they absorbed completely everything these two philosophers said. Through the intellectuals the total life was affected in a most disastrous manner. We might here reflect what might have happened if two other outstanding Western philosophers capable of expounding a truly Christian Humanism had gone there at that time. The Chinese were ready to be influenced either way. The tragedy has come to pass, yet we must at least begin now. The situation can be saved.

4. We must participate more actively in the Student and Teacher Exchange Programs that are now in existence. Our educational institutions should become more interested in Asian scholars. There are thousands of them in this country. These scholars will be the future leaders of the Asian world. Whatever we can do for them will have far-reaching effects. Whatever we do not do for them will also have far-reaching effects. Their hunger is very great. Individuals also should take a personal, friendly interest in these students from abroad. Christian students here should be encouraged to apply for scholarships for foreign study.

5. We must remember the importance of America. We have become the leader of the Free World. Providence has selected us for a great mission in these critical times. We alone have the resources. Asians look to us with special attraction. We have stood for their human rights in the past when European Colonial Powers had little regard for human rights. Now we must show our ability to meet their intellectual needs. It is a special challenge and a special opportunity for American Christians.

In conclusion, hunger must be satisfied, for left unsatisfied it leads to desperation. Desperation leads to destruction. And destruction in any part of the world in our times leads to destruction of all the world.

As Christians we must believe that we do have the resources to satisfy the intellectual hunger of Asia and of all the world. What is needed is merely that we, the Catholic people of America, move into the position of leadership to which we are called. The signs are that the Christians of this country are rising to a new spiritual expression of their faith. Now they realize that the salvation of a large part of the world is directly dependent upon them. They are moving into the work. The future is, indeed, bright with promise.

Can We Deal With Red China?

THE LESSONS FREE CHINA HAS LEARNED

By C. H. LOWE, *Chinese author, lecturer and counselor of the Chinese Embassy, Washington, D. C.*

Delivered before the annual assembly of Providence College in observance of World Affairs Month, Providence, Rhode Island, March 19, 1958

MR. CHAIRMAN, Ladies and Gentlemen and Fellow-students:

On April 7 last year an American missionary, Fulgence Gross, told Hong Kong reporters after six years' imprisonment in Red China: "The Communists are after International Communism. We knows? America may be next. Let's not kid ourselves!"

In these plain words, we are told—as many other observers have done so previously—that Communist ambitions and conspiracies are designed to control not only China and Asia but also Europe and the Americas—particularly the United States of America which the Communist strategists have openly described as their foremost enemy and their greatest obstacle to world domination.

Within the hour placed at my disposal, let me try to refresh your minds with no more than a review of three things of basic importance which are often forgotten but which may help us find an answer to the question under consideration today: 1. Communist thinking on peace and peaceful co-existence; 2. Communist practices in regard to peaceful co-existence; and 3. China's experience in dealing with the Communists during the last thirty-eight years.

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First of all, a review of the writings and sayings of outstanding Communist theorists and leaders will show that according to their thinking, there is and can be no enduring peace between the growing Communist empire and the non-Communist world. Marx, Lenin, Stalin, Mao Tse-tung, William Z. Foster and Nikita Khrushchev as well as other proponents of International Communism have consistently held that peace and Communism are incompatible.

As early as April, 1916, Lenin revealed before the Russian Socialist Conference that "every peace program is a deception of the people and a piece of hypocrisy unless its principal objective is to explain to the masses the need for a revolution and to support, aid and develop the revolutionary struggle of the masses." In his *Selected Works*, Lenin also remarked: "It would be quite wrong to forget that war is but a continuation of politics by other means . . . An oppressed class which does not strive to learn to use arms, to acquire arms, only deserves to be treated like slaves." On the inevitability of war, Lenin once wrote: "There was nothing more pernicious than the clerical, petty bourgeois, pacifist argument that war could be abolished under capitalism . . . Under capitalism, wars are inevitable. Only when capitalism is overthrown, and socialism triumphs all over the world will war be abolished."

Stalin, too, had made it perfectly clear that "peace efforts" would be used as a "ruse" to delay war with the capitalist countries when he declared in a speech before the Fifteenth Congress of the C. P. S. U. on December 2, 1957: "We cannot

forget the saying of Lenin to the effect that a great deal in the matter of our construction depends on whether we succeed in delaying war with the capitalist countries, which is inevitable but which may be delayed either until proletarian revolution ripens in Europe or until colonial revolutions come fully to a head, or finally until the capitalist countries fight among themselves over the division of colonies."

Mao Tse-tung, the fanatical Chinese disciple of Soviet Communism, was no less revealing in his attitude towards war and peace when he wrote many years ago: "War is the highest form of struggle between nations, states, classes or political groups." Again in 1936, Mao Tse-tung emphasized and described the Communist war as "holy." He said: "There are but two kinds of wars in history, revolutionary and counter-revolutionary. We support the former and oppose the latter. Only a revolutionary war is holy." Then in his book entitled *New Democracy* released on January 19, 1940, Mao Tse-tung asserted: "The whole world looks upon Communism as its saviour. So also does China today. The Chinese revolution is indeed a glorious and important part of the world revolution."

When Mao Tse-tung and his party (the Chinese Communist Party) formed the so-called Soviet government in Kiangsi in April, 1929, they specifically proclaimed in their constitution their "readiness to form a revolutionary front with the world proletariat," and they further pronounced the Soviet Union as their "loyal ally." Finally, in the Chinese Communist Party Congress held in April 1945, Mao Tse-tung said: "We Communists never conceal or disguise our political planks. Our future or ultimate program is to push China to socialism and communism; this is definite and beyond question."

The leader of the American Communist Party, William Z. Foster, is like-minded and equally explicit in his statements on war and peace. In the August, 1954, issue of *Political Affairs* (a Communist publication) Foster has frankly told us that from the Communist point of view, "peaceful co-existence" is not an objective but a temporary measure for ultimately assuring the sole existence and survival of socialism. Peaceful co-existence—as Foster and other spokesmen of International Communism have disclosed time and again—is not the Communists' goal but a stepping stone towards the establishment of Communist power the world over. And even for granting peaceful co-existence to the free nations temporarily, the Communists exact a high price. They demand that we, the free peoples, give up our arms, abolish NATO and SEATO, admit Communist China into the United Nations and give them—amongst other things—the bastion of Taiwan or Formosa. So even if we were willing or prepared to sacrifice our honor, principles and all the material and military advantages which we still possess over the Soviet aggressors, we would not have real and permanent peace but only a short respite so that the Communists would have time to become better prepared and more capable of destroying us eventually.

But the most candid revelation of Communist philosophy and attitude on co-existence comes from none other than the present boss in the Kremlin—the man who is now clamouring for a second Summit Conference. Often presenting himself to the world as a smiling and congenial person for the purpose of winning friends, confusing the neutralists and disarming his enemies, Nikita Khrushchev is nonetheless a ruthless tyrant. As Stalin's chief henchman and co-conspirator, Khrushchev is responsible for having killed tens of thousands of innocent people. He is the butcher of the Ukraine and Hungary. He is the one who has downgraded Stalin, liquidated Beria, silenced Malenkov, exiled Molotov and expelled Zhukov. His record of deceit and brutality is too long to be elaborated here. Of the many things he has said recently, none reflects his morbid outlook so clearly as these arrogant words: "Of course, we must realise that we cannot co-exist eternally. One of us must go to his grave. *We* do not want to go to the grave. The Western powers do not want to go to their graves, either. So what must be done? We must push them to their graves."

Ladies and gentlemen, these words give us much food for thought.

* * *

Secondly, let us see how the Communists apply their formula of "peaceful co-existence," particularly in China and Asia.

In China, let me remind you that we have tried "peaceful co-existence" with the Communists no less than three times during the last thirty-eight years, and each time we have found them more demanding and more powerful than before. The most bitter lesson which we have learned during the last four decades is the utter impossibility of living in peace with the Communists. We have found that there can be but two ways open to us (and the free world): i.e. either submit meekly to Communist enslavement or unite all our efforts and remain firm in fighting the Communists for the preservation of freedom. There is no middle way, as our leaders and people have learned.

Long ago, Bolshevik leaders had realised the necessity of obtaining the support of Asia in order to prosecute their conspiracy of world revolution successfully. Lenin once said: "In the final analysis the outcome of our struggle would be determined by the fact that Russia, India and China constitute the overwhelming majority of the world." As early as 1918 Stalin told his comrades: "Don't forget the East," and expressed his belief that the Communists would not succeed unless they also succeeded in controlling Asia.

In September, 1920, the Russia Communists began to take an active interest in fomenting revolutionary activities amongst Asian peoples by convening the so-called Baku Congress of the Peoples of the East. Important personages representing the Communist International such as Gregory Zinoviev and Karl Radek, respectively president and secretary to the Russian Communist Party at that time, were selected and sent to direct the Baku conference. Hundreds of delegates representing many nationalities in Asia were reported to have attended this Congress.

In conformity with Lenin's teachings that revolution in Asia should be promoted simultaneously with the progress of the Russian revolution and be made a prerequisite to the success of the world revolution, Karl Radek summoned the peoples of the East to join "the Holy War against Western imperialism" in these words: "There can be no permanent peace between the countries of labor and the countries of exploitation. The oriental policy of the Soviet Government is not an opportunistic maneuver but a sincere endeavour to help the down-trodden masses of the East in their struggle against the oppressors."

While the Baku Congress failed to bring about any immediate revolutionary action on a massive scale during the 1920's, it had considerable propaganda value to the Soviet leaders as well as to numerous groups of discontented Asian politicians and agitators. It also revealed the long-term objectives which the Russian Communists had in mind for Asia.

Fully alert to the importance of controlling the vast manpower of Asia as a stepping stone to world domination, the Russian Communists began to establish a number of schools (such as the University of the Toilers of the East, etc.) for teaching Communist doctrines and training Asian agents and followers. During the last thirty-eight years, tens of thousands of students, political workers, and military leaders in various strategic parts of Asia have been induced to study in Moscow. Upon the completion of their training, these Soviet-made stooges have returned to their homelands to instigate "popular

revolts" and promote war against the existing authorities. Soviet Russia, though currently publicised as the bastion of peace, is actually—in the official language of the Communist International—"the base of the world movement of all oppressed classes, and the center of world revolution."

Shortly after the formation of the Chinese Communist Party in 1920 and sincerely believing in Soviet Russia's good intentions in offering aid for his program of national unification, Dr. Sun Yat-sen willingly accepted Communist collaboration and welcomed Communists in the Nationalist party. But he soon learned that the Communists, with the help of Soviet advisers such as Borodin, were far more interested in promoting their own pattern of proletarian revolts than in pushing the Kuomintang program of achieving national unity and independence. Their wanton destruction of life and property in south and central China during this first period of Kuomintang-Communist collaboration from 1924-1927 is a well-known, albeit tragic, chapter in contemporary Chinese history.

Fortunately, Dr. Sun Yat-sen, with a view to obtaining an accurate report on Soviet Russian intentions and conditions, had thought it wise to send a young follower of his, General Chiang Kai-shek, to visit Moscow. Chiang spent four months in the Soviet Union in 1923. Upon his return, he submitted an unfavorable report on Russian developments to the Kuomintang. After the death of Dr. Sun Yat-sen in 1925, the relationships between the Kuomintang and the Chinese Communist Party became so strained and impossible to remedy that General Chiang Kai-shek, as head of the then newly established National Government in Nanking, decided to expel the Communists and began to suppress Communist activities in the country. During the ten years following its establishment in Nanking, the National Government had made admirable progress both in economic reconstruction and in checking the growth of Communism.

Up to the outbreak of Sino-Japanese hostilities in 1937, Chinese Government troops had practically liquidated the Soviet regime in Kiangsi and had driven the Communist remnants itno the Northwest. But the Communists again "saved their necks" by offering the Government a so-called United Front to resist Japanese invasion. At that time, the Chinese Government could not afford to divert its troops to completing the anti-Communist suppression campaign. Hoping that Mao Tse-tung and his party would give unreserved support to fighting Japan, the Chinese Government once more agreed to try "peaceful co-existence" with the Reds.

However, the second World War gave the Chinese Communist Party the very opportunity it needed not only to develop itself "from an infant into a powerful giant," but also to pour into the power vacuum made inevitable by eight years of suffering of the people. Throughout the war, the Communists steadily increased their political and military strength, and through clever propaganda and false promises they extended their control in North China and influenced much of European and American public opinion. This political and propaganda game was so well planned and played that countless Chinese and non-Chinese were deceived by the Reds. Fomented by favorable domestic and international circumstances, the Communist drive for power, by the end of World War II, had grown into a political hurricane too overwhelming for the Chinese Government to arrest without becoming involved in a new international conflict and too sudden for the West to appraise calmly.

Through the formation of the United Front in 1937, the Chinese Communists were no longer bound by legal restrictions but were free to organize, move about and infiltrate into both military and civic organizations in areas unoccupied by the Japanese. During the first few years of this United Front (a Communist trick which had also produced benefits to the Reds in eastern Europe), the Chinese Red Army under General Chu Teh, though ostensibly reorganized by the National Military Council, remained under Communist direction and received much financial support as well as a good share of the Government's military supplies. Communist newspapers and literature were permitted to circulate in practically all the large cities held by the Government troops. In fact, Communist agitators and subversive agents had more freedom of action in Government-controlled areas than Government representatives had in Yenan's "little empire." Consequently, the membership of the Chinese Communist Party, estimated by Mao Tse-tung at no more than 40,000 in 1937, had increased to 1,210,000 at the close of World War II.

During the war period, the Chinese Communists had plenty of time to train and heighten the spirit of their members and sympathizers while the Government was overburdened with problems and responsibilities of holding the Japanese invaders at bay—a war it was never quite prepared to fight.

As subsequent events proved beyond any doubt, political and military expansion was a deliberate Communist policy during the War. While outwardly renewing his collaboration with the Government and the Kuomintang, Mao Tse-tung said in 1937: "The war between China and Japan is an excellent opportunity for the development of our party. Our determined policy is 70% self-development, 20% compromise with the Kuomintang, and 10% fight the Japanese. For the sake of familiarizing our comrades in their work, so that when they are cut off from headquarters they can still strive toward the common goal, I like to point out to our comrades the above policy."[1]

Moreover, the Communists in China—like their comrades elsewhere in the world—fight their war not only with miiltary weapons but also every means and device they feel necessary or find useful to their cause: political disturbances, labor agitations, strikes, student riots, sabotage, mob violence and a host of other methods—all of which they try to create and pursue according to a premeditated and well-organized plan. As followers of Lenin and in accordance with his instructions on "revolutionary morality," the Chinese Reds have frequently resorted to "all sorts of cunning, schemes, stratagems, illegal means and deception" in conducting their military campaigns, political and psychological warfare—tactics which the Government does not approve and therefore cannot indulge in itself. By combining and synchronizing their visible and invisible weapons of war, the Communists have made gains far beyond what their formerly limited military strength could have produced. In this way, their operations were scattered and conducted at all levels of the country's population with maximum results. The Chinese Communists did not take the mainland within a single year; they captured China gradually from millions of naive, frustrated, poverty-stricken, war-weary and helpless people over a period of thirty years. Like termites, they worked from the ground, bored into the wood and step by step destroyed the unity of mainland China. And in pursuing this revolutionary program, they have had strong Soviet encouragement and support.

* * *

Having presented this cursory review of the Communists' thinking on peace and their practices in China and Asia, let me now summarize the lessons we have learned during the last 38 years. Our dealings and long experience with the Com-

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[1]From Report on the Strategy and Tactics of Communism compiled by U. S. Committee on Foreign Affairs, published by U. S. Government Printing Office, 1949; p. 24.

munists, I hope, may be of some value to those who now think it is possible to deal with the Peiping regime.

For nearly 38 years Mao Tse-tung and the Chinese Communist Party have devoted their energies to promoting a Comintern-formulated and Soviet-supported revolution in China. They have never shown any intention to give up their revolutionary objectives and activities. Although they have sometimes adopted different tactics from those proposed or advocated by the Kremlin, they have consistently followed the philosophy of Marx, Lenin and Stalin and have co-ordinated their efforts with those of the Comintern and the Cominform.

Take Red China's foreign policy, for instance; it has invariably parroted the Moscow line. Mao Tse-tung has always preached, advocated and practiced the "one Ally" policy. During the first two years of the Sino-Japanese hostilities, the Chinese Communists had pursued an anti-Fascist stand in their propaganda activities, and treated Hitler in the same category with the Japanese warlords. But when the Kremlin signed a pact with Hitler in August, 1939, the Chinese Communists were stunned and had to change their propaganda line, almost overnight, to suit Moscow's purposes. And when the Kremlin signed a treaty with Japan in April, 1941, and thereby gave recognition to the puppet state of "Manchukuo", the Chinese Communists again were compelled to side with Soviet Russia—even at the expense of China's sovereign rights. In more recent years, the international outlook and foreign policy of the Chinese Communist regime have followed the Moscow pattern even more closely and more clearly. The latest illustration of what the Chinese Communists proudly boast as Sino-Soviet solidarity is the joint communique issued by Chou En-lai and Premier Bulganin on January 16, 1957, which frankly denounced the Western democracies as imperialists and deplored the freedom-fighters in Hungary. In short, Red China can no more be trusted than Red Russia.

While the Communist leaders show no sincerity in developing real enduring peace with the free world, they believe in the frequent use of "peace movements," "peace campaigns," "peace overtures" and "peace talks" to help attain their ultimate and major objectives. Their "peace efforts" have often proved quite fruitful, sometimes bringing them results which they probably would not have succeeded in getting through open or direct warfare. Whenever they felt that they could gain much more by talking peace across a conference table than by shooting, they would make a strategic retreat, even accept a temporary setback, and try to open or resume peace talks. They are astute, smart and patient enough to know when to retreat and when to advance, but as Mao Tse-tung has declared, they would try to advance two steps for every step of retreat they are forced to make. As soon as circumstances allow they would always come back with a more powerful offensive or a more costly demand than the one before. Their tactics are to gain time, to mislead their opponents, to confuse the neutralists, and finally to deal a crushing blow against their opposition.

Because of their clever and repeated use of these tricks and truce periods, the Chinese Communists have made extraordinary military and political gains in the end. By talking peace off and on without diminishing their military efforts or giving up their world-wide objectives the Communists have now seized control of mainland China, north Korea, half of Indo-China and are continuing to expand into southeast Asia. "Peaceful co-existence" has been a very profitable formula to the Communists, but a most devastating business to the free world.

Ladies and gentlemen, because of our intimate knowledge of the Communists and their intrigues, we realise more fully than most other peoples the futility of dealing and talking with them, and so we (who support the Free Chinese government now operating in Taiwan) remain firm in fighting against them. Talking is the one language which the Communists—be they Russian or Chinese—do not care to understand and never appreciate, for the Communist mind is twisted and to the Communist mind "every negotiation is an act of war," "every delegation is an act of war" and "every disarmament conference is an act of war."[2]

During the last forty years, we have seen the Kremlin and its satellites turn quite a few top-level conferences into virtual booby traps, paying dividends only to the Reds and damaging the solidarity of the free world. So in the midst of the current clamour for a second summit conference, allow me to invite your attention to a significant bit of advice which a great American general, Tasker H. Bliss, once gave to former President Woodrow Wilson during the Paris Peace Conference of 1919. Wilson, forced by the Big Four to hand over China's Shantung province to Japan at the end of the first World War, received an urgent appeal for fair play from General Bliss, who was then adviser to the American peace delegation. The General's letter ended with these important words:

> "It can't be right to do wrong, even to make peace. Peace is desirable, but there are things dearer than peace—justice and freedom."

2Appearing before the U. S. House Committee on Un-American Activities on May 29, 1957, Dr. Frederick C. Schwarz, Executive Director of the Christian Anti-Communist Crusade, declared *inter alia*: "To negotiate with people who are utterly dedicated to the concept of the historical inevitability of class war and their victory is impossible . . . To the Communist every negotiation is an act of war . . . etc."

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